Comprehensive Guide to the Missouri School Improvement Program

Updated July 2014

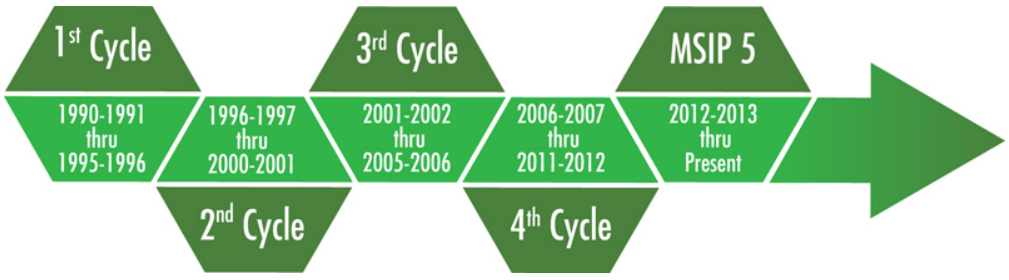
MSIP 5 Overview

The fifth version of the Missouri School Improvement Program (MSIP 5), the state's accountability system for reviewing and accrediting public school districts, outlines the expectations for student achievement with the ultimate goal of each student graduating ready for success in college and careers. The comprehensive MSIP accountability system was established in 1990 and has evolved with each version. MSIP 5 Resource and Process Standards are designed to promote continuous improvement and innovation within each district. The Process Standards are often qualitative in nature. The MSIP 5 Performance Standards are designed to recognize the achievement and continuous growth of ALL students as they prepare for a global economy.

MSIP 5 is also used to distinguish the performance of schools and districts in valid, accurate and meaningful ways so that districts in need of improvement can receive appropriate support and interventions, and high-performing districts can be recognized as models of excellence. Annual Performance Reports (APRs) are based on the performance standards and are reviewed for accreditation purposes at the district level. The State also produces APRs for schools and charter LEAs to support its goal of empowering all stakeholders in manners appropriate to their roles through regular communication and transparent reporting of results.

In July of 2012, Missouri's ESEA Flexibility Request was approved by the United States Department of Education. This was an opportunity for Missouri to use its own reliable accountability system at the forefront of school and district accountability. The State is able to offer an aligned comprehensive system of support to schools and districts as outlined in this document.

The adopted MSIP 5 Standards represent the work of hundreds of educators. Numerous refinements and revisions were made before the State Board of Education approved the final changes. The standards will guide Missouri's continuing school-improvement efforts as we work together to reach our goal of student achievement in Missouri ranking among the top 10 states by 2020!



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Performance Standards

Overview

Missouri's Top 10 by 20 plan holds as a primary goal that all students will graduate high school college- and career-ready. To measure progress toward this goal and to distinguish among school and district performance, the Department computes an Annual Performance Report (APR) score for each Local Education Agency (LEA) and school. This overall score is comprised of scores for each of the MSIP 5 Performance Standards (1) **Academic Achievement** (2) **Subgroup Achievement** (3) **High School Readiness** (K-8 districts) or **College and Career Readiness** (K-12 districts), (4) **Attendance Rate** and (5) **Graduation Rate** (K-12 districts). Status, progress, and growth (where applicable) are used to calculate a comprehensive score used to determine the accreditation level of a school district.

Data for academic achievement (English language arts and mathematics), subgroup achievement (English language arts and mathematics) and graduation rate are also used for federal accountability determinations, including reward, focus and priority school identification, for LEAs and schools.

The MSIP 5 Performance Standards were approved by the State Board of Education in December of 2011 and go into effect two (2) years from the date of approval. Missouri's ESEA Flexibility Request was approved by the United States Department of Education in July of 2012. The components used for federal accountability went into effect upon approval of the request.

Performance Standards for K-12 Districts

1. Academic Achievement—The district administers assessments required by the Missouri Assessment Program (MAP) to measure academic achievement and demonstrates improvement in the performance of its students over time.

    1. Student performance on assessments required by the MAP meets or exceeds the state standard or demonstrates improvement in performance over time.

    2. The percent of students tested on each required MAP assessment meets or exceeds the state standard.

    3. Growth data indicate that students meet or exceed growth expectations.

2. Subgroup Achievement—The district demonstrates required improvement in student performance for its subgroups.

    1. The performance of students identified on each assessment in identified subgroups, including free/reduced price lunch, racial/ethnic background, English language learners, and students with disabilities, meets or exceeds the state standard or demonstrates required improvement.

3. College and Career Readiness—The district provides adequate post-secondary preparation for all students.

    1. The percent of graduates who scored at or above the state standard on any department-approved measure(s) of college and career readiness, for example, the ACT®, SAT®, COMPASS® or Armed Services Vocational Aptitude Battery (ASVAB), meets or exceeds the state standard or demonstrates required improvement.

    2. The district's average composite score(s) on any department-approved measure(s) of college and career readiness, for example, the ACT®, SAT®, COMPASS®, or ASVAB, meet(s) or exceed(s) the state standard or demonstrate(s) required improvement.

    3. The percent of graduates who participated in any department-approved measure(s) of college and career readiness, for example, the ACT®, SAT®, COMPASS®, or ASVAB, meets or exceeds the state standard or demonstrates required improvement.

    4. The percent of graduates who earned a qualifying score or grade on an Advanced Placement (AP), International Baccalaureate (IB), or Technical Skills Attainment (TSA) assessments and/or receive college credit or a qualifying grade through early college, dual enrollment, or approved dual credit courses meets or exceeds the state standard or demonstrates required improvement.

    5. The percent of graduates who attend post-secondary education/training or are in the military within six (6) months of graduating meets the state standard or demonstrates required improvement.

    6. The percent of graduates who complete career education programs approved by the department and are placed in occupations directly related to their training, continue their education, or are in the military within six (6) months of graduating meets the state standard or demonstrates required improvement.

4. Attendance Rate—The district ensures all students regularly attend school.

    1. The percent of students who regularly attend school meets or exceeds the state standard or demonstrates required improvement.

5. Graduation Rate—The district ensures all students successfully complete high school.

    1. The percent of students who complete an educational program that meets the graduation requirements as established by the board meets or exceeds the state standard or demonstrates required improvement.

Performance Standards for K-8 Districts

1. Academic Achievement—The district administers assessments required by the MAP to measure academic achievement and demonstrates improvement in the performance of its students over time.

    1. Student performance on assessments required by the MAP meets or exceeds the state standard or demonstrates improvement in performance over time.

    2. The percent of students tested on each required MAP assessment meets or exceeds the state standard.

    3. Growth data indicate that students meet or exceed growth expectations.

2. Subgroup Achievement—The district demonstrates required improvement in student performance for its subgroups.

    1. The performance of students identified on each assessment in identified subgroups, including free/reduced price lunch, racial/ethnic background, English language learners, and students with disabilities, meets or exceeds the state standard or demonstrates required improvement.

3. High School Readiness—The district provides adequate post-elementary preparation for all students.

    1. The percent of students who earn a proficient score on one (1) or more of the high school end-of-course (EOC) assessments while in elementary school meets or exceeds the state standard or demonstrates required improvement.

4. Attendance Rate—The district ensures all students regularly attend school.

    1. The percent of students who regularly attend school meets or exceeds the state standard or demonstrates required improvement.

MSIP 5 Annual Performance Report (APR) Scoring Guide

Missouri's Top 10 by 20 plan holds as a primary goal that all students will graduate high school college- and career-ready. To measure progress toward this goal and to distinguish among school and district performance, the Missouri Department of Elementary and Secondary Education computes an Annual Performance Report (APR) score for each Local Education Agency (LEA) and school. This overall score is comprised of scores for each of the MSIP 5 Performance Standards (1) **Academic Achievement,** (2) **Subgroup Achievement,** (3) **High School Readiness** (K-8 districts) or **College and Career Readiness** (K-12 districts), (4) **Attendance Rate,** and (5) **Graduation Rate** (K-12 districts). Three (3) distinct metrics focusing on status, progress, and growth (where applicable) are used to calculate a comprehensive score used to determine the accreditation level of a school district.

Performance Standard 1 Academic Achievement	**English Language Arts**	**Mathematics**	**Science**	**Social Studies**
Points Possible	**16**	**16**	**16**	**8**
Performance Standard 2 Subgroup Achievement	**English Language Arts**	**Mathematics**	**Science**	**Social Studies**
Points Possible	**4**	**4**	**4**	**2**
Performance Standard 3 (K-12 Districts) College & Career Readiness	**Indicators*1-3**	**Indicator*4**	**Indicators*5-6**	
Points Possible	**10**	**10**	**10**	
Performance Standard 3 (K-8 Districts) High School Readiness				
Points Possible	**10**			
Performance Standard 4 Attendance				
Points Possible	**10**			
Performance Standard 5 Graduation				
Points Possible	**30**			

The detailed scoring guides for each performance standard are outlined in this section. The academic and subgroup achievement measures are based on the Missouri Assessment Program (MAP) grade-level (GLA), end-of-course (EOC), and MAP-alternate (MAP-A) assessments. The high school readiness measure is based on the end-of-course assessments. Once new assessments aligned to Missouri's Learning Standards are available and included in the MAP, the Department will reset the achievement targets accordingly. **Performance and achievement targets will be reviewed and revised, if necessary, when new assessments are introduced and/or every three (3) years.**

MSIP 5 Performance Standard 1: Academic Achievement

Academic Achievement — The district administers assessments required by the Missouri Assessment Program (MAP) to measure academic achievement and demonstrates improvement in the performance of its students over time.

1. Student performance on assessments required by the MAP meets or exceeds the state standard or demonstrates improvement in performance over time.
2. The percent of students tested on each required MAP assessment meets or exceeds the state standard.
3. Growth data indicate that students meet or exceed growth expectations.

Status	ELA/Math /Science	Social Studies	Progress	ELA/Math /Science	Social Studies	Growth (ELA & Math)	
2020 Target	16	8	Exceeding	12	6	Exceeding	12
On Track	12	6	On Track	6	3	On Track	6
Approaching	9	5	Approaching	3	1.5	Floor	0
Floor	0	0	Floor	0	0		

Notes:

- Data are obtained from contracted testing publishers for the grade-level assessment, end-of-course assessments and Missouri Assessment Program-Alternate (MAP-A) assessments.
- As assessments change in 2014-2015 or beyond, the scoring guide will be adjusted.
- All MAP performance data are reported to the nearest tenth.
- Appendix H contains appeals procedures.

STATUS MEASURES

Status is a measurement of the school's or LEA's level of achievement based upon a three (3) year average of the MAP Performance Index (MPI), unless three (3) years of data are not available. When three (3) years of data are not available for the LEA and/or school, (e.g. a new school is established) the available years will be used for reporting purposes. When three (3) consecutive years of data are not available for the LEA and/or school, (e.g. participation rate not met in prior year), the three (3) most recent years of data - not to exceed a time span of five (5) years - will be used for accountability purposes. A detailed description of how to calculate the MPI can be found later in this document. The MPI is used to determine whether the LEA, school, or subgroup is meeting the 2020 target, is on track, is approaching, or is substantially not meeting (floor) the academic achievement target for English language arts, mathematics, science, and social studies MAP assessments. See the subsection on Cell Size for further considerations.

Status is divided into four (4) levels as follows:

- **2020 Target** — represents a level of performance approximately equivalent to the projected 2020 performance of the top 10 states on the corresponding National Assessment of Educational Progress (NAEP) exam OR, in subjects for which state-by-state NAEP data are unavailable, an equally rigorous target.
- **On Track** — represents levels of increasing performance expectations with a goal of 75% proficient by the year 2020 – if Basic achievement is worth 300 points and Proficient achievement is worth 400 points, an MPI of 375 would result from 75% of students scoring at Proficient and 25% scoring at Basic. Current performance is compared to this target, then a linear trajectory is created that requires equal annual progress increments to reach the 2020 target.
- **Approaching** — represents a level of performance equal to 100% Basic if each score at the Basic level yields 300 points.
- **Floor** — represents a level of performance less than 100% Basic if each score at the Basic level yields 300 points.

PROGRESS MEASURES

The MPI is also used to measure annual improvement on the MAP assessments. This indicator holds LEAs and schools accountable for continuous improvement year to year using a rolling average. This method measures improvement by comparing two (2) year averages of data and setting targets based on an MPI Gap. Year 1 and 2 are averaged, and years 2 and 3 are averaged; the averages are then compared to determine the amount of improvement achieved. When three (3) years of data are not available in the LEA or school, (e.g., a new school is established) the available years will be used for reporting purposes. When three (3) consecutive years of data are not available, (e.g., assessment data are not available one (1) year for a content area), the three most recent years of data - not to exceed a time span of five (5) years - will be used for accountability purposes. Progress in the LEA or school's MPI recognizes movement of students throughout all MAP achievement levels, ensuring that the focus remains on all students and not just those closest to being proficient. Differentiated improvement targets are set for LEAs, schools and subgroups based on the individual group's two (2) prior years' achievement. A detailed description of how to calculate the MPI Gap can be found later in this document.

Progress is divided into four (4) levels as follows:

- **Exceeding** — represents equal to or greater than 5% improvement based on the MPI Gap.
- **On Track** — represents equal to or greater than 3% but less than 5% improvement based on the MPI Gap.
- **Approaching** — represents equal to or greater than 1% but less than 3% improvement based on the MPI Gap.
- **Floor** — represents less than 1% improvement based on the MPI Gap.

GROWTH MEASURES

Growth is the change in achievement scores for an individual student between two (2) or more points in time. While Progress measures the change in the performance of a defined group over time, Growth measures the achievement gains of individual students over time.

Growth measures for MSIP 5 are determined by conducting a statistical analysis of all valid MAP score pairs from the prior three (3) years. A valid MAP score pair is a score from grades 4 through 8 with a score from the prior year and grade level. For example, a 4th grade score with a valid 3rd grade score from the prior year, both for the same student, is a valid MAP score pair. In this case the 4th grade score in the pair is the outcome score and the 3rd grade score from the prior year is the predictor score. A 5th grade

MAP score with no 4th grade score from the prior year would NOT be included in the statistical analysis because there is no valid predictor score to go with the outcome score.

The statistical analyses determine the relationship between outcome scores and predictor scores across all schools and districts. This relationship is used to calculate a "predicted outcome score" for each score pair. The differences between the predicted outcome scores and the observed outcome scores (the "residuals") from all the analyzed score pairs are then analyzed to determine each LEA or school "effect" on student achievement growth.

A score pair is assigned to an LEA and school when the MAP test that generated the outcome score was taken in that LEA and school, regardless of the LEA and school where the exam that generated the valid predictor score was taken. An LEA or school growth measure (an "effect estimate") is basically the average of the differences between observed and predicted scores from all test pairs assigned to the school or district.

Current limitations in the assessment and related statistical analysis preclude developing a purely standards-based approach to evaluating the adequacy of student growth. **A standards-based approach will be developed as we transition to new assessments.**

At this time, growth measures are only available for grades 4 through 8 in English language arts and mathematics. School and LEA growth measures are reported in Normal Curve Equivalent (NCE) units on the APR. The state mean is, by construction, a score of 50 NCEs. LEA and school growth measures are compared to the state mean and those that are statistically different from the state mean will be noted. (Statistical significance depends on three (3) factors – the magnitude of the difference from the state mean, the number of score pairs analyzed for the LEA or school, and the overall variability in the individual student growth measures.)

Growth is divided into three (3) levels as follows:

- **Exceeding** — The LEA or school growth measure (effect) is greater than 50 AND the difference from 50 is statistically significant.
- **On Track** — The LEA or school growth measure (effect) is not statistically different from 50.
- **Floor** — The LEA or school growth measure (effect) is less than 50 AND the difference from 50 is statistically significant.

TEST PARTICIPATION

All LEAs and schools are required to assess at least 95% of their students and subgroups on the assessments required by the MAP. Zero (0) APR points will be awarded to a content area for the aggregate or subgroup(s) for which the rate falls below 95%.

English Language Learners (ELL) Exclusion

To meet the participation standard, English Language Learners (ELL) in their first year of U.S. schooling must participate in the state English Language Proficiency (ELP) assessment and the MAP for mathematics. ELLs in their second year of U.S. schooling and beyond must participate in the mathematics, English language arts, science and social studies MAP and the state ELP assessment. Exceptions to the ELP assessment requirement will be made only where accommodations for ELLs with disabilities are not available for a particular test.

MAP-Alternate (MAP-A) Exclusion

Some students with severe cognitive disabilities are not able to take the standard grade-level or course-level content area assessments. If the student's Individualized Education Plan (IEP) team determines the student is unable to participate in the standard assessment, he/she takes a MAP-Alternate (MAP-A) assessment. LEAs are required to assess all students who qualify for the MAP-A assessment on the corresponding MAP-A test, unless an alternate assessment is not yet available. A student's scorable MAP-A portfolio in grade 10 mathematics is used to meet the Algebra I end-of-course participation requirement, the English language arts grade 11 is used to meet the English II end-of-course participation requirement, the grade 11 science is used to meet the biology participation requirement. The LEA must use the MAP-A Exception code for the *additional* end-of-course tests, as alternate assessments are not yet available. However, a student would need to have consistently participated in MAP-A assessments previously before the MAP-A Exception code may be used by the LEA for the additional assessments.

If the student's IEP team determines he/she is unable to participate in the standard assessment, the LEA is required to assess the student using a MAP-A assessment when available. There is no cap on the number of students who may *participate* in the MAP-A test. However, there is a 1% cap on proficient or advanced scores earned from the MAP-A which may be used in the LEA's accountability determinations. The 1% cap is calculated at the LEA level and uses the tested population per subject area. LEAs that serve greater than 100 tested students will be restricted to the cap of 1% of their total tested population per subject area. LEAs that serve 100 or fewer tested students will be restricted to a cap not exceeding one (1) student per subject area. LEAs with high percentages of students with cognitive disabilities may submit a Request for Exception to the Cap on Alternate Assessments.

Full Academic Year (FAY)

LEAs are required to test all enrolled students, unless the above specified ELL or MAP-A Exclusion applies. All scores will be reported, but only scores of those students who have been enrolled a "Full Academic Year" in a school and/or LEA will be included in the calculation for the APR score. A full academic year is defined as any student who is enrolled from the last Wednesday in September through the MAP administration, without transferring out of the school or LEA for a significant period of time and re-enrolling. A significant period of time is considered "one (1) day more than half of the eligible days between the last Wednesday in September and the test administration." This information is obtained from the Missouri Student Information System (MOSIS) data reported by LEAs. This applies to each summary level independently. For example, a student who is coded as "in building less than a year" but was in the LEA a full academic year is excluded from the school totals but is included in the LEA totals.

Participation Rate Calculation

The participation rate calculates the percent of students who receive a valid MAP score in a subject or content area. A student for whom the district is accountable is an "Accountable Student." An "Accountable Student" who receives a valid MAP score in a subject or content area is defined as a "Participant." The number of "Participants" divided by the number of "Accountable Students" is the participation rate. When an "Accountable Student" does not receive a valid test score, the student receives a "Level Not Determined" (LND) in place of an achievement level score. The percent for LND may not exceed 5%, as all LEAs and schools are required to assess at least 95% of their students on the assessments required by the MAP. If test data are not evaluated due to not meeting the minimum 95% participation rate, a symbol appears next to the subject area on the APR summary report.

Step 1 – The number of "Accountable Students" is determined. See definition regarding how to determine "Accountable Students."

Participants		LND Students	Accountable Students
130	+	2	132

Step 2 – The Participation Rate is determined. "Participants" divided by "Accountable Students" = "Participation Rate" rounded to the tenth.

Participants		Accountable Students	*Participation Rate
130	/	132	98.5%

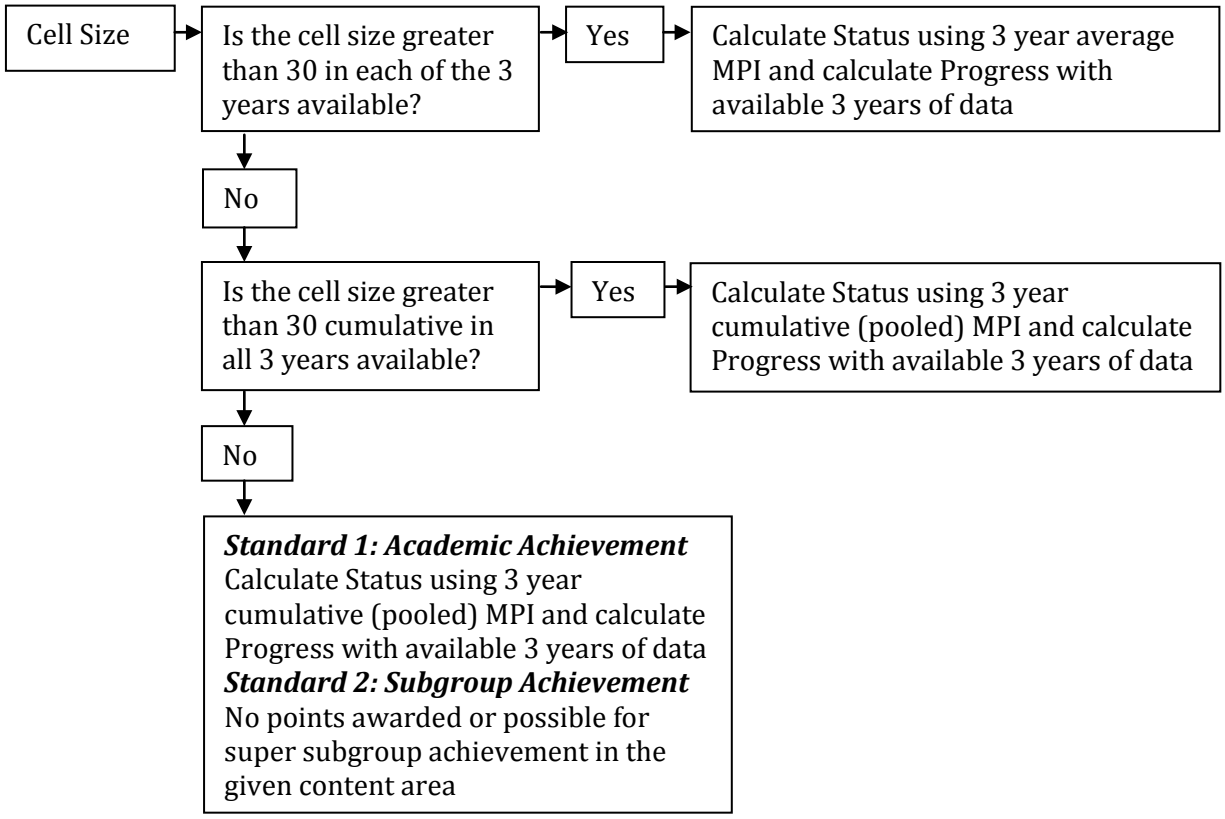
*No points are awarded for test data if the participation rate falls below 95%.

	Definitions
Accountable	A student for whom the district is accountable to asses is an "Accountable Student" Note: MAP scores are comprised from grade-level, MAP-A and EOC assessments.
Participant	An "Accountable Student" who receives a valid MAP score in a subject or content area
Reportable	Number of students with an Achievement Level for the content area excluding applicable exceptions
Level Not Determined (LND)	Number of students without an Achievement Level or an attempt on any session on the test Note: Graduating seniors that have not participated in all required assessments will receive applicable LND's.
***MAP-A students with a scorable MAP-A portfolio in a tested grade level are assigned an Achievement Level.	

CELL SIZE

LEAs, schools, and the super subgroup (Standard 2: Subgroup Achievement) must have at least 30 accountable students in the group being measured in a given content area each year over a three (3) year period in order to generate scores for accountability based on the average of three (3) annually-calculated MPIs. If this is not possible, the Status measure is calculated by "pooling" three (3) years of data and summing the number of Accountable students and the numbers of students in each achievement level across the three (3) year period; the "pooled" count is used in the calculation for determining Status and is referred to as the cumulative measure.

This flowchart explains the conditions triggering special cell size decisions for Standard 1: Academic Achievement and Standard 2: Subgroup Achievement.



MEASURING MAP

The ***MAP Performance Index (MPI)*** is used to develop scores within the Status and Progress metrics and to set academic achievement targets for LEA, school and student group achievement. Student performance on tests administered through the MAP is reported in terms of four (4) achievement levels (Below Basic, Basic, Proficient and Advanced) that describe a pathway to proficiency. The MPI is a single composite number that represents the MAP assessment performance of every student by awarding points to each student based on the four (4) achievement levels. The points for all students in the LEA, school or student group in a subject area are summed together, divided by the number of students in the group being measured and then multiplied by 100 rounded to the tenth. The result is the MPI for that group and subject. All assessment results from a single accountability year and for a single subject/content area are combined when generating the LEA, school, or student group MPI.

MPI Point Values

Numeric values are assigned to each of the Achievement-level scores as follows:

Achievement Level	Index Point Value
Below Basic	1
Basic	3
Proficient	4
Advanced	5

Assigning one (1) point to the Below Basic achievement level and three (3) points for the Basic achievement level supports Missouri's expectation of placing every child on a path towards Proficiency.

The additional point spread is designed to recognize, through year-to-year improvement in the MPI, the movement of students from this least desirable achievement level. The use of the index also allows for distinction between the Proficient and Advanced student, holding LEAs and schools accountable for continuous improvement beyond proficiency.

MPI Example Calculation

Achievement levels are provided by the testing companies for the total number of Reportable Students in each subject area. In the following example of a single content area for a grade 6 through 8 school, achievement levels generated through the grade-level MAP, the MAP-A and the EOC assessments may be utilized. To generate the MPI, the number of Advanced scores are multiplied by five (5), Proficient scores by four (4), Basic scores by three (3), and Below Basic scores by one (1). These products are then summed, divided by the total number of reportable and multiplied by 100 then rounded to the tenth to produce the MPI which ranges from 100-500. The following example shows how the index is calculated in a single subject and school:

Step 1 – The number of students in each achievement level is determined for each year.

	Number Reportable						Total
	Grade 6	**Grade 7**	**Grade 8**	**EOC**	**MAP-A**		**Reportable**
Below Basic	10	5	5	0		=	20
Basic	10	10	15	0		=	35
Proficient	5	10	15	9	1	=	40
Advanced	15	8	5	2		=	30
Total Reportable						=	125

Step 2 – The index point value assigned to each achievement level is multiplied by the number of students in each achievement level.

Achievement Level	**Index Point Value**		**# of Students**		**Index Points**
Below Basic	1	*	20	=	20
Basic	3	*	35	=	105
Proficient	4	*	40	=	160
Advanced	5	*	30	=	150
Total			125		435

Step 3 – The total index points is divided by the total number of reportable students and multiplied by 100 rounded to the tenth.

Total Index Points		**Reportable Students**					**MPI**
435	/	125	=	3.48	*	100	**348**

-The same method is used when calculating at the LEA level.

Step 1 – The number of students in each achievement level is determined for each year.

	Gr 3	Gr 4	Gr 5	Gr 6	Gr 7	Gr 8	EOC	MAP-A		Total Reportable
Below Basic	5	8	7	10	5	5	5		=	45
Basic	12	10	8	10	10	15	15		=	80
Proficient	17	20	14	5	10	25	25	2	=	118
Advanced	10	11	10	15	10	5	15	1	=	77
Total Reportable										320

Step 2 – The index point value assigned to each achievement level is multiplied by the number of students in each achievement level.

Achievement Level	Index Point Value		# of Students		Index Points
Below Basic	1	*	45	=	45
Basic	3	*	80	=	240
Proficient	4	*	118	=	472
Advanced	5	*	77	=	385
Total			320		1,142

Step 3 – The total index points is divided by the total number of Reportable Students and multiplied by 100 rounded to the tenth.

Total Index Points		Reportable Students					MPI
1,142	/	320	=	3.569	*	100	**356.9**

Status Measure Calculation

The MPI is used to determine whether the LEA, school, or subgroup is meeting the 2020 target, is on track to meeting the target, is approaching or is substantially not meeting the academic achievement targets (floor) set for the MAP content area. Using three (3) years of data, this indicator holds LEAs and schools accountable for student performance in relation to statewide academic achievement targets.

Example: Using three (3) years of data to calculate the three (3) year MPI for "ABC" LEA population for mathematics.

Year 1 MPI		Year 2 MPI		Year 3 (most recent year) MPI				3-year MPI Status
354.2	+	356.9	+	360.1	=	1,071.2	/ 3	**357.1**

In this example, the MPI for mathematics from Year 1, Year 2, and Year 3 are averaged and the mean is used to determine whether the LEA, school or subgroup is meeting or exceeding the 2020 target, is on track to meeting the target, is approaching or is substantially not meeting (floor) the academic achievement target. The three (3) year MPI status and the corresponding designation of 2020 target/on track/approaching are then used to assign points (e.g., a "score") to each standard. For example, if a 357.1 three (3) year MPI = is "On Track" in mathematics, the LEA, school or subgroup would receive 12 Status Points for mathematics.

Table 1. Standard 1: Academic Achievement Status Scores

	English Language Arts (ELA):	Mathematics:	Science:	Social Studies:
Academic Achievement	Grades 3-8 MAP, MAP-A, Eng I Eng II	Grades 3-8 MAP, MAP-A, Alg I, Geo, Alg II	Grades 5, 8 MAP, MAP-A, Biology	American History; US Government
Status (Three (3) year average)	2020 Target = 16 On Track = 12 Approaching = 9 Floor = 0	2020 Target = 16 On Track = 12 Approaching = 9 Floor = 0	2020 Target = 16 On Track = 12 Approaching = 9 Floor = 0	2020 Target = 8 On Track = 6 Approaching = 5 Floor = 0

Additional EOCs will be added to the Subject Areas as they become available.

Progress Measure Calculation

The MPI also is used to measure annual improvement on the MAP assessments. This indicator holds LEAs and schools accountable for continuous improvement in the LEA, school or subgroup year to year using a rolling average. It recognizes movement of scores throughout all MAP achievement levels, ensuring that the focus remain on all students and not just those closest to being proficient. Differentiated improvement targets are set for LEAs, schools and subgroups based on the individual group's two (2) prior years of achievement. The average MPI for Years 1 and 2 is subtracted from a constant set at a 450 MPI to determine the MPI Gap.

Example: Calculating the progress measure for "ABC" school district based on a rolling average of MPI, the following example shows how the progress measure is calculated in a single subject and school district level:

ABC District: ELA	Year 1	Year 2	Year 3 (most recent year)
MPI	358.1	346.6	365.3

Step 1 – Add the scores for Years 1 and 2 and divide by two (2) to determine the average rounded to the tenth.

(358.1 + 346.6) / 2 = 352.4

Step 2 - The average MPI for Years 1 and 2 is subtracted from 450 to determine the MPI Gap.

Constant MPI		Years 1 and 2 Average MPI		MPI Gap
450	-	352.4	=	97.6

Step 3 - The MPI Gap is used ***to establish progress targets*** as determined by multiplying the MPI Gap by the associated percentage, e.g. 5% for exceeding, 3% for on track, 1% for approaching.

Table 2. Generating Targets for Progress Measure

	MPI Gap				MPI Increase Needed	Years 1 and 2 Average MPI	Years 2 and 3 Average Progress Target
Exceeding	97.6	*	5%	=	4.9	352.4	357.3-500
On Track	97.6	*	3%	=	2.9	352.4	355.3-357.2
Approaching	97.6	*	1%	=	1.0	352.4	353.4-355.2

Step 4 – Add the scores for Years 2 and 3 and divide by two (2) to determine the average rounded to the tenth.

(346.6 + 365.3) / 2 = 356.0

Step 5 – Subtract the Years 1 and 2 (prior two (2) year) average from the Years 2 and 3 (current two (2) year) average to determine the minimum MPI increase needed to meet each target level.

356.0 – 352.4 = 3.6

Step 6 – The district's Years 2 and 3 average MPI is compared to the district's Years 1 and 2 average MPI to determine if the district is exceeding, on track, or approaching the required MPI increase. In this example, the ABC school district has a Year 2 and 3 average MPI of 356.0, an improvement of 3.6 MPI from the Year 1 and 2 average MPI, which means that it is designated as "On Track" with the improvement benchmark and subsequently receives six (6) points as its Progress Score in English language arts.

Table 3. Standard 1: Academic Achievement Progress Scores

	English Language Arts (ELA):	Mathematics:	Science:	Social Studies:
Academic Achievement	Grades 3-8 MAP, MAP-A, Eng I, Eng II	Grades 3-8 MAP, MAP-A, Alg I, Geo, Alg II	Grades 5, 8 MAP, MAP-A, Biology	American History; US Government
Progress	Exceeding = 12 On Track = 6 Approaching = 3 Floor = 0	Exceeding = 12 On Track = 6 Approaching = 3 Floor = 0	Exceeding = 12 On Track = 6 Approaching = 3 Floor = 0	Exceeding = 6 On Track = 3 Approaching = 1.5 Floor = 0

Additional EOCs will be added to the Subject Areas as they become available.

Growth Measure Calculation

Growth measures in English language arts and mathematics grades 4 through 8 are calculated using a Missouri Growth Model and included as a Growth Score that may be used in place of the LEA, school or student group Progress Score. Using statistical methods, the Missouri Growth Model estimates the systemic contributions of LEAs and schools on student growth. For a full description, see Missouri Growth Model in Appendix I.

Table 4. Growth Scores

	English Language Arts (ELA):	**Mathematics:**
Academic Achievement	Grades 3-8 MAP, MAP-A	Grades 3-8 MAP, MAP-A
Growth (Grades 4-8)	Exceeding = 12 On Track = 6 Floor = 0	Exceeding = 12 On Track = 6 Floor = 0

If the LEA (for the LEA report) or school (for the school report) Growth Score is positive and a statistically significant score in mathematics, that Growth Score would earn 12 Growth Points in mathematics. Progress ***or*** Growth points, whichever is higher, is applied to the Academic Achievement score.

The Status and Progress or Growth methods are applied to each subject (where applicable). The method awarding the maximum total points from Status + Progress or Growth is used for each subject area. The maximum amount of points that can be earned per subject area cannot surpass the points allocated for Status Points "2020 Target," e.g. 16 for English language arts or eight (8) for social studies.

MSIP 5 Performance Standard 2: Subgroup Achievement

Subgroup Achievement — The district demonstrates required improvement in student performance for its subgroups.

1. The performance of students identified on each assessment in identified subgroups, including free/reduced price lunch, racial/ethnic background, English language learners, and students with disabilities, meets or exceeds the state standard or demonstrates required improvement.

Status	ELA/Math /Science	Social Studies	Progress	ELA/Math /Science	Social Studies	Growth (Only ELA & Math)	
2020 Target	4	2	Exceeding	3	1.5	Exceeding	3
On Track	3	1.5	On Track	2	1	On Track	2
Approaching	2	1	Approaching	1	0.5	Floor	0
Floor	0	0	Floor	0	0		

Notes:

- Data are obtained from contracted testing publishers for the grade-level assessment, end-of-course assessments and Missouri Assessment Program-Alternate (MAP-A) assessments.
- As assessments change in 2014-2015 or beyond, the scoring guide will be adjusted.
- All MAP performance data are reported to the nearest tenth.
- Standard 2: Subgroup Achievement calculates the percent proficient or advanced and the MAP Performance Index (MPI) by subject area for students who are included in the super subgroup.
- Individual subgroup data are available in the Missouri Comprehensive Data System Portal (MCDS).

SUPER SUBGROUP

To better differentiate among needs of the LEAs or schools and to ensure broader inclusion of students whose subgroups have historically performed below the state total, Missouri will continue to issue and report academic achievement for students in the aggregate and for low income students, students with disabilities, English language learners, and the state's major racial and ethnic subgroups. A review of Missouri data identifies five (5) significant gaps in subgroup performance (Black, Hispanic, low income students, students with disabilities and English language learners). For accountability determinations (e.g. District Accreditation, Reward or Focus school identification), a super subgroup comprised of these five (5) subgroups is used. A student who is included in one (1) or more of the five (5) identified subgroups is included as a single count in the super subgroup calculation.

In the example below, all ten (10) students' scores are included in Standard 1: Academic Achievement in the group of total for accountability and reporting purposes when the cell size requirement is met (see cell size description for actual cell size requirements of 30).

For Standard 2: Subgroup Achievement, a student who is included in one (1) or more of the five (5) identified subgroups, such as students B, C, D, E, and G, are only included once (unduplicated count) in the super subgroup calculation when the cell size requirement is met.

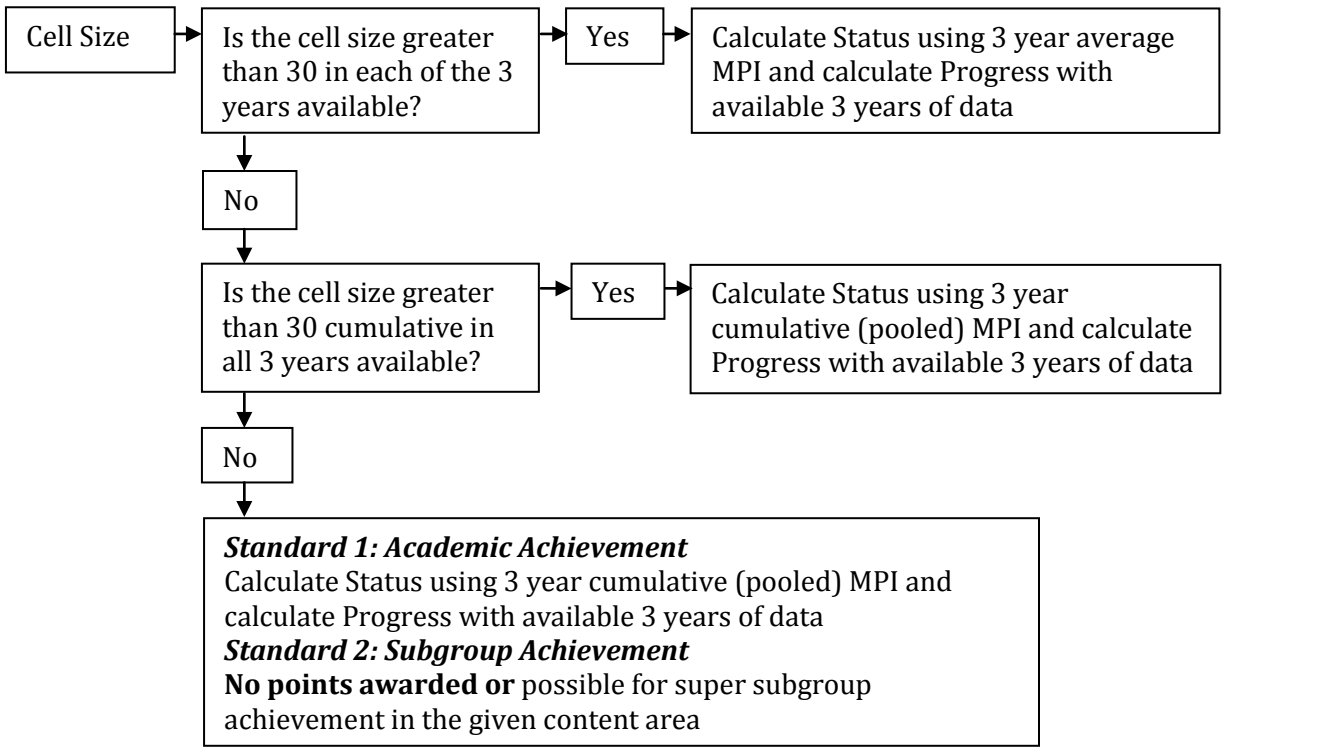
Student	Total	Asian/ Pac Is	Black	Hispanic	Am Indian	White	Multi - Racial	FRL	IEP	ELL
A	X					X				
B	X					X		X	X	
C	X		X							
D	X		X					X	X	
E	X			X				X	X	X
F	X	X								
G	X					X		X		
H	X					X				
I	X					X				
J	X						X			

Performance of individual subgroups is reported for planning purposes. For example, Student B's score would be reported in the group of Total, White, FRL, and IEP.

CELL SIZE

LEAs, schools, and the super subgroup (Standard 2: Subgroup Achievement) must have at least 30 accountable students in the group being measured in a given content area each year over a three (3) year period in order to generate scores for accountability based on the average of three (3) annually-calculated MPIs. If this is not possible, the Status measure is calculated by "pooling" three (3) years of data and summing the number of Accountable students and the numbers of students in each achievement level across the three (3) year period; the "pooled" count is used in the calculation for determining Status and is referred to as the cumulative measure

This flowchart explains the conditions triggering special cell size decisions for Standard 1 and 2:



STATUS, PROGRESS AND GROWTH MEASURES

The super subgroup measures for Status, Progress and Growth are calculated through the same methodology used to compute the LEA or school-level Standard 1: Academic Achievement scores as described starting on page 10. This includes measures of MPI calculations, test participation, MAP-A exclusions, ELL exclusions and full academic year.

The Status targets for Standard 2: Subgroup Achievement status targets are established based on cutting the achievement gap in half. The amount of points granted for 2020 target, on track, approaching, or falling significantly below the target (floor), is displayed in Tables 5 and 6.

The same conceptual and statistical framework used to generate growth measures for Academic Achievement applies to the growth estimates generated for Subgroup Achievement. However, since the Growth Measure for Subgroup Achievement compares the average Growth of students in a district or school's super subgroup to that of the state non-super subgroup, Growth Measures for Subgroup Achievement must be interpreted in a different manner.

Subgroup growth measures are reported in (Normal Curve Equivalent) NCE units on the APR. Growth measures that are statistically different from the state average growth of the non-super subgroup will be noted. Super subgroup growth will earn APR growth points as described below.

Growth is divided into three (3) levels as follows:

- **Exceeding** — The LEA or school growth measure (effect) is greater than 50 AND the difference from 50 is statistically significant.
- **On Track** — The LEA or school growth measure (effect) is not statistically different from 50.
- **Floor** — The LEA or school growth measure (effect) is less than 50 AND the difference from 50 is statistically significant.

Table 5. Standard 2: Subgroup Achievement Status and Progress Scores

	English Language Arts (ELA):	Mathematics:	Science:	Social Studies:
Subgroup Achievement	Grades 3-8 MAP, MAP-A, Eng I Eng II	Grades 3-8 MAP, MAP-A, Alg I, Geo, Alg II	Grades 5, 8 MAP, MAP-A, Biology	American History; US Government
Status (3 year average)	2020 Target = 4 On Track = 3 Approaching = 2 Floor = 0	2020 Target = 4 On Track = 3 Approaching = 2 Floor = 0	2020 Target = 4 On Track = 3 Approaching = 2 Floor = 0	2020 Target = 2 On Track = 1.5 Approaching = 1 Floor = 0
Progress	Exceeding = 3 On Track = 2 Approaching = 1 Floor = 0	Exceeding = 3 On Track = 2 Approaching = 1 Floor = 0	Exceeding = 3 On Track = 2 Approaching = 1 Floor = 0	Exceeding = 1.5 On Track = 1 Approaching = 0.5 Floor = 0

Additional EOCs will be added to the Subject Areas as they become available.

Table 6. Standard 2: Subgroup Achievement Growth Scores

	English Language Arts (ELA):	Mathematics:
Subgroup Achievement	Grades 3-8 MAP, MAP-A, Eng I, Eng II	Grades 3-8 MAP, MAP-A, Alg I, Geo, Alg II
Growth	Exceeding = 3 On Track = 2 Floor = 0	Exceeding = 3 On Track = 2 Floor = 0

The Status and Progress or Growth methods are applied to each subject (where applicable). The method awarding the maximum total points from Status + Progress ***or*** Growth is used for each subject area. The maximum amount of points that can be earned per subject area cannot surpass the points allocated for Status Points "2020 Target," e.g. four (4) for English language arts or two (2) for social studies.

MSIP 5 Performance Standard 3: Indicators 1-3
College and Career Readiness (CCR) (K-12 LEAs only)

College and Career Readiness (K-12 Districts) — The district provides adequate post-secondary preparation for all students.

1. The percent of graduates who scored at or above the state standard on any department-approved measure(s) of college and career readiness, for example, the ACT®, SAT®, COMPASS® or Armed Services Vocational Aptitude Battery (ASVAB), meets or exceeds the state standard or demonstrates required improvement.
2. The district's average composite score(s) on any department-approved measure(s) of college and career readiness, for example, the ACT®, SAT®, COMPASS®, or ASVAB, meet(s) or exceed(s) the state standard or demonstrate(s) required improvement.
3. The percent of graduates who participated in any department-approved measure(s) of college and career readiness, for example, the ACT®, SAT®, COMPASS®, or ASVAB, meets or exceeds the state standard or demonstrates required improvement.

Status		Progress	
2020 Target	**10**	**Exceeding**	**7.5**
On Track	**7.5**	**On Track**	**4**
Approaching	**6**	**Approaching**	**2**
Floor	**0**	**Floor**	**0**

Notes:

- Data are obtained from the MOSIS June Enrollment and Attendance file and from official testing companies (ACT®, SAT® and COMPASS®) for scores on department-approved measures of college and career readiness.
- ASVAB data are reported by the LEA through MOSIS submission.
- When students take multiple types of tests and/or a single test multiple times, the highest score is used for the APR calculation.
- ACT®, SAT®, COMPASS® and ASVAB weighted scores available in Appendix C – "CCR*1-3 Assessment Scores Matrix."
- ACT® WorkKeys® will be added to approved assessments for the 2014-2015 school year and applied to the 2015-2016 APR.
    - Beginning in the 2014-2015 school year, all juniors will participate in the statewide administration of the ACT® for additional information see the 5/29/14 Administrative Memo: http://dese.mo.gov/sites/default/files/am/documents/CCR-14-008.pdf

Example of supporting data format for APR:

		Year 1	Year 2	Year 3 (most recent)	Status
From MOSIS →	Number of Graduates	148	153	155	
→	Number of Graduates	87	98.5	110.25	

From MOSIS and testing company	Scoring at or Above the State Standard				
	Percent of Graduates Scoring at or Above the State Standard	58.7	64.4	71.1	64.7

Method for calculating number of students at or above the state standard:

Explanations of Calculations	Examples of Data	Examples of Calculations
Approximate equivalent scores are used to establish comparability of scores on different assessments. A matrix of approximately equivalent CCR*1-3 assessment scores (Appendix C) displays SAT®, COMPASS®, and ASVAB exams and their approximately equivalent ACT® scores. Scores on the ACT® are used as reported. **ACT® scores and approximately equivalent scores derived from other assessments must be equal to or greater than the ACT® anchor score in order to be included in the number of students scoring at or above the state standard.** The exam contributing the highest approximate equivalent score is used for each student.	**Unduplicated Count** a) number of graduates who score at or above a 26 on the ACT® or who demonstrate comparable performance on a department-approved measure multiplied by 1.25 b) number of graduates who score at or above a 22 on the ACT® but below a 26 or who demonstrate comparable performance on a department-approved measure multiplied by 1 c) number of graduates who score at or above an 18 on the ACT® but below 22 or who demonstrate comparable performance on a department-approved measure multiplied by .75 d) number of graduates who participate in a department approved measure of college and career readiness but score below comparable performance of an 18 on the ACT® multiplied by .25 e) number of graduates without a score multiplied by zero	a) 18 * 1.25 = 22.5 b) 43 * 1 = 43 c) 52 * 0.75 = 39 d) 23 * 0.25 = 5.75 e) 19 * 0 = 0

	Number of graduates scoring at or above the state standard	22.5 + 43 + 39 + 5.75+ 0 = 110.25

-Refer to Appendix C for the CCR*1-3 Assessment Scores Matrix

Method for calculating status:

The percent of graduates scoring at or above state standard is determined by dividing the number of graduates scoring at or above the state standard by the number of graduates, then multiplying by 100 rounded to the tenth.

Explanations of Data	Examples of Data	Examples of Calculations
1) The **number of graduates** is based on June Enrollment and Attendance Records with an Exit Code indicating the student graduated.	number of graduates	155
2) The **number of graduates scoring at or above the state standard** is provided by the testing companies supplying approved assessment data; ASVAB data are provided by LEAs through MOSIS.	number of graduates scoring at or above the state standard	110.25
3) The **percent of graduates scoring at or above the state standard** is determined by dividing the **number of graduates scoring at or above the state standard** by the **number of graduates**, then multiplying by 100 rounded to the tenth.	a) number of graduates scoring at or above the state standard = 110.25 b) number of graduates = 155	a) 110.25 / 155 = 0.711 b) 0.711 * 100 = 71.1%
4) **Status** is determined by adding Year 1, Year 2, and Year 3 of the **percent of graduates scoring at or above the state standard,** dividing by three (3) (unless three (3) years of data are not available), and rounding to the tenth.	(Year 1 + Year 2 + Year 3) / 3	58.7 + 64.4 + 71.1 = 194.2 194.2 / 3 = 64.7%

Method for calculating Progress:

Differentiated improvement targets are set for a given LEA or school based on the two (2) prior years' performance of that LEA-or school.

Example: Calculating the Progress measure for "ABC" school district, the following example shows how the Progress measure is calculated at the district level using a rolling average:

ABC District	Year 1	Year 2	Year 3 (most recent year)
Percent of students scoring at or above state standard	58.7	64.4	71.1

Step 1 - Add the scores for Years 1 and 2 and divide by two (2) to determine the average rounded to the tenth.

(58.7 + 64.4) / 2 = 61.6

Step 2 - The average percentage for Years 1 and 2 is subtracted from 100 to determine the CCR*1-3 Gap.

Constant		Years 1 and 2 Average Percent		CCR*1-3 Gap
100	-	61.6	=	38.4

Step 3 - The CCR*1-3 gap is used to establish Progress Targets as determined by multiplying the CCR*1-3 Gap by the associated percentage, e.g. 25% for exceeding, 15% for on track, 5% for approaching.

Table 7. Generating Targets for Progress Measure

	CCR*1-3 Gap				Percent Increase Needed	Years 1 and 2 Average Percent	Years 2 and 3 Average Progress Target
Exceeding	38.4	*	25%	=	9.6	61.5	71.1-100
On Track	38.4	*	15%	=	5.8	61.5	67.3-71.0
Approaching	38.4	*	5%	=	1.9	61.5	63.4-67.2

Step 4 – Add the scores for Years 2 and 3 and divide by two (2) to determine the average rounded to the tenth.

(64.4 + 71.1) / 2 = 67.8

Step 5 - The district's Years 2 and 3 average percentage is used to determine if the district is exceeding, on track, or approaching the required percent increase. In the example above, the ABC school district has a Year 2 and 3 average percentage of 67.8, which means that it is designated as "On Track" (67.3-71.0 range) with the Progress Target and subsequently receives four (4) points as its Progress Score in CCR*1-3.

Table 8. Computing the College and Career Readiness*1-3 Score

	Status	Progress
Points Possible	2020 Target = 10 On Track = 7.5 Approaching = 6 Floor = 0	Exceeding = 7.5 On Track = 4 Approaching = 2 Floor = 0
College and Career Readiness Total:	Maximum of ten (10) points per indicator area for Status + Progress	

MSIP 5 Performance Standard 3: Indicator 4
College and Career Readiness (CCR) (K-12 LEAs only)

College and Career Readiness (K-12 Districts) — The district provides adequate post-secondary preparation for all students.

4. The percent of graduates who earned a qualifying score on an Advanced Placement (AP), International Baccalaureate (IB), or Technical Skills Attainment (TSA) assessments and/or receive college credit through early college, dual enrollment, or approved dual credit courses meets or exceeds the state standard or demonstrates required improvement.

Status		Progress	
2020 Target	**10**	**Exceeding**	**7.5**
On Track	**7.5**	**On Track**	**4**
Approaching	**6**	**Approaching**	**2**
Floor	**0**	**Floor**	**0**

Notes:

- Data are obtained from the MOSIS June Enrollment and Attendance file, MOSIS June Student Core, October Student Assignment, Courses Completed and Grades Earned, and from official testing companies (AP and IB).
- Only dual credit courses from a Missouri institution that is complying with the Coordinating Board for Higher Education's Dual Credit Policy and Principles of Good Practice for Dual Credit Courses will be recognized. See Appendix E.
- See Appendix F for approved Technical Skills Attainment (TSA) assessments that can be used to obtain an Industry Recognized Credential (IRC)
- Test Scores for high school level Project Lead The Way (PLTW) are included in the 2014 APR. For additional information please see a **list of PLTW courses included in APR**. Early college measure Project Lead the Way (PLTW) assessment scale scores of 6 or higher are included in Standard CCR 3*4. Data are obtained from the official testing company.
- When students take multiple types of tests and/or a single test multiple times or earn multiple credits, one metric (the highest) is used for the APR calculation.

Method for calculating number of students at or above the state standard:

Step 1 - Determine the number of students with a qualifying score on any of the approved options and multiply by associated point value.

Explanations of Calculations	Examples of Data	Examples of Calculations
Scores on the AP, IB, or PLTW exams are used as reported by the testing company. Scores on a department-approved IRC are used as reported in MOSIS. Grades earned in department-approved dual credit courses, dual enrollment, early college, AP courses and IB courses are used as reported in MOSIS. The metric contributing the highest score is used for each student	**Unduplicated Count** a) number of graduates who score at or above a 3 on an AP exam or who score at or above a 4 on an IB exam multiplied by 1.25 b) number of graduates who score proficient on a department-approved IRC assessment or a scale score of 6 or higher on a PLTW assessment multiplied by one (1) c) number of graduates who earn a "B" or greater in a department-approved dual credit course, dual enrollment course, early college course, AP course, or IB course multiplied by one (1) d) number of graduates without a qualifying score or grade on an approved measure multiplied by zero (0)	a) 16 * 1.25 = 20 b) 12 * 1 = 12 c) 41 * 1 = 41 d) 77 * 0 = 0
	Number of graduates scoring at or above the state standard	20 + 12 + 41 + 0 = 73

Step 2 - Divide the number of points earned by the number of graduates and multiply by 100 rounded to the tenth.

Total Points Earned		Number of Graduates					MPI
73	/	150	=	0.487	*	100	**48.7%**

Example of supporting data format for APR:

		Year 1	Year 2	Year 3 (most recent)	Status
From MOSIS →	Number of Graduates	148	153	150	
From MOSIS and testing company →	Number of Graduates Scoring at or Above the State Standard	87	97.5	73	
	Percent of Graduates Scoring at or Above the State Standard	58.8	63.7	48.7	57.1

Method for calculating Status:

The percent of graduates who earned a qualifying score on the AP, IB or PLTW or earn a Department approved IRC assessments or qualifying grade in an early college, dual enrollment, or approved dual credit courses is determined by dividing the number of graduates who earned a qualifying score/grade by the total number of graduates, then multiplying by 100 and rounded to the tenth.

Explanations of Data	Examples of Data (using Year 1-Year 3)	Examples of Calculations
1) The **number of graduates** is based on June Enrollment and Attendance Records with an Exit Code indicating the student graduated.	number of graduates	148 (Year 1)
2) The **number of graduates** who earned a qualifying score on the AP, IB, IRC or early college assessments or a qualifying grade in dual enrollment or approved dual credit courses provided by the testing companies and/or by the Courses Completed and Grades Earned as reported in June Enrollment and Attendance.	number of graduates who earned a qualifying score on the AP, IB, IRC or early college assessments and/or received college credit through dual enrollment or approved dual credit courses	87 (Year 1)
3) The **percent of graduates who earned a qualifying score** is determined by dividing the **number of graduates who earned a qualifying score on the AP, IB, IRC, or early college, or earned a qualifying grade dual enrollment or approved dual credit courses** by the	a) number of graduates = 148 b) number of graduates scoring at or above the state standard = 87	% of graduates scoring at or above the state standard = 87 / 148 = 0.588 0.588 * 100 = 58.8%

number of graduates, then multiplying by 100 rounded to the tenth.		
4) **Status** is determined by adding Year 1, Year 2, and Year 3 of the **percent of graduates who earned a qualifying score on the AP, IB, IRC, or early college assessments, or earned a qualifying grade in dual enrollment or approved dual credit courses,** dividing by three (3) (unless three (3) years of data are not available), and rounding to the tenth.	(Year 1 + Year 2 + Year 3) / 3	58.8 + 63.7 + 48.7 = 171.2 171.2 / 3 = 57.1%

Method for calculating Progress:

Differentiated improvement targets are set for a given LEA-or school based on the two (2) prior years' performance of that LEA or school.

Example: Calculating the Progress measure for "ABC" school district, the following example shows how the CCR*4 Progress measure is calculated at the district level using a rolling average:

ABC District	Year 1	Year 2	Year 3 (most recent year)
Percent of students who earn a qualifying score	58.8	63.7	48.7

Step 1 - Add the scores for Years 1 and 2 and divide by two (2) to determine the average rounded to the tenth.

(58.8 + 63.7) / 2 = 61.3

Step 2 - The average percentage for Years 1 and 2 is subtracted from 100 to determine the CCR*4 Gap.

Constant		Years 1 and 2 Average Percent		CCR*4 Gap
100	-	61.3	=	38.7

Step 3 - The CCR*4 Gap is used ***to establish Progress Targets*** as determined by multiplying the CCR*4 Gap by the associated percentage, e.g. 25% for exceeding, 15% for on track, 5% for approaching.

Table 9. Generating Targets for Progress Measure

	CCR*4 Gap				Percent Increase Needed	Years 1 and 2 Average Percent	Years 2 and 3 Average Progress Target
Exceeding	38.7	*	25%	=	9.7	61.3	71.0-100
On Track	38.7	*	15%	=	5.8	61.3	67.1-70.9
Approaching	38.7	*	5%	=	1.9	61.3	63.2-67.0

Step 4 – Add the scores for Years 2 and 3 and divide by two (2) to determine the average rounded to the tenth.

(63.7 + 48.7) / 2 = 56.2

Step 5 - The district's Years 2 and 3 average percentage is used to determine if the district is exceeding, on track, or approaching the required percent increase. In this example, the ABC school district has a Year 2 and 3 average percentage of 56.2, which means that it is designated as "Floor" not meeting the Progress Targets and subsequently receives zero (0) as its Progress Score in CCR*4.

Table 10. CCR*4 Status and Progress Score

	Status	Progress
Points Possible	2020 Target = 10 On Track = 7.5 Approaching = 6 Floor = 0	Exceeding = 7.5 On Track = 4 Approaching = 2 Floor = 0
College and Career Readiness Total:	Maximum of ten (10) points per indicator area for Status + Progress	

MSIP 5 Performance Standard 3: Indicators 5–6
College and Career Readiness (CCR) (K-12 LEAs only)

College and Career Readiness (K-12 Districts) — The district provides adequate post-secondary preparation for all students.

5. The percent of graduates who attend post-secondary education/training or are in the military within six (6) months of graduating meets the state standard or demonstrates required improvement.
6. The percent of graduates who complete career education programs approved by the department and are placed in occupations directly related to their training, continue their education, or are in the military within six (6) months of graduating meets the state standard or demonstrates required improvement.

Status		Progress	
2020 Target	**10**	**Exceeding**	**7.5**
On Track	**7.5**	**On Track**	**4**
Approaching	**6**	**Approaching**	**2**
Floor	**0**	**Floor**	**0**

Notes:

- Data are obtained from the MOSIS June Enrollment and Attendance file and February Student Graduate Follow-up.
- Data from the National Student Clearinghouse (NSC) are provided to LEAs prior to the due date for the February Student Graduate Follow-up collection. These data contain post-secondary enrollment records verified by participating institutions and are intended to be used as a starting point for the MOSIS Student Graduate Follow-Up submission. Submissions resulting in post-secondary participation rates that vary significantly from results obtained from NSC will not be accepted for MSIP 5 purposes without adequate supporting documentation. A district with a 15% variance will receive a warning and a 25% variance will receive an error.
- This is a lagged indicator representing graduates from the preceding year(s).
- For placement related questions see the Career Education Placement/Follow-Up Guidelines Appendix G.

Example of supporting data format for APR:

Status is determined by adding Year 1, Year 2, and Year 3 of the **percent of post-secondary placement and** dividing by three (3) rounded to the tenth.

	Post-secondary education, training, military and CTE placement	Year 1	Year 2	Year 3	Status
From MOSIS →	Number of Graduates	377	357	385	
From MOSIS/ Screen 13 (previous year) →	Number of Graduates who attend post-secondary education or training, are in the military, or who complete a Department-approved Career Education program and are placed in an occupation directly related to their training within six months of graduating.	320	333	339	
	Percent of post-secondary placement	85.0	93.3	88.0	88.8

Method for calculating supporting data:

Explanations of Calculations	Examples of Data	Examples of Calculations
The percent of post-secondary placement is determined by dividing the number of graduates who attend post-secondary education or training, are in the military, or who participate in a Department-approved Career Education program and are placed in an occupation directly related to their training by the number of graduates, and then multiplying by 100 rounded to the tenth.	**Unduplicated Count** a) number of graduates who attend post-secondary education = 147 b) number of graduates who attend post-secondary training = 118 c) number of graduates who are in the military = 17 d) number of graduates who complete a Department-approved Career Education Program and are placed in an occupation directly related to their training = 57	147+ 118 + 17+ 57= 339
	Number of graduates = 385	385
		339 / 385 = 0.881
	Percent of post-secondary placement	0.881 * 100 = 88.1%

Method for calculating Status:

The percent of graduates who earned a qualifying score on post-secondary placement is determined by dividing the number of graduates who earned a qualifying score by the number of graduates of graduates, then multiplying by 100 and rounded to the tenth.

Explanations of Data	Examples of Data	Examples of Calculations
1) The **number of graduates** is based on June Enrollment and Attendance Records with an Exit Code indicating the student graduated.	number of graduates	385

2) Number of Graduates who attend post-secondary education or training, or are in the military, or who complete a Department-approved Career Education program and are placed in an occupation directly related to their training within six months of graduating.	number of graduates who earned a qualifying score	339
5) The **percent of graduates who earned a qualifying score** is determined by dividing the **number of graduates who earned a qualifying score in post- secondary placement** by the **number of graduates**, then multiplying by 100 rounded to the tenth.	c) number of graduates = 385 d) number of graduates who earn a qualifying score = 339	339 / 385 = 0.881 0.881 * 100 = 88.1%
6) **Status** is determined by adding Year 1, Year 2, and Year 3 of the **percent of graduates who earned a qualifying score in post-secondary placement,** dividing by three (3) (unless three (3) years of data are not available), and rounding to the tenth.	(Year 1 + Year 2 + Year 3) / 3	85.0 + 93.3 + 88.1 = 266.4 266.4 / 3 = 88.8%

Method for calculating Progress:

Differentiated improvement targets are set for a given LEA or school based on the two (2) prior years' performance of that LEA or school.

Example: Calculating the Progress Measure for "ABC" school district, the following example shows how the CCR*5-6 Progress Measure is calculated at the district level using a rolling average:

ABC District	Year 1	Year 2	Year 3 (most recent year)
Percent of students who earn a qualifying score	85.0	93.3	88.1

Step 1 - Add the scores for Years 1 and 2 and divide by two (2) to determine the average rounded to the tenth.

(85.0 + 93.3) / 2 = 89.2

Step 2 - The average percentage for Years 1 and 2 is subtracted from 100 to determine the CCR*5-6 Gap.

Constant		Years 1 and 2 Average Percent		CCR*5-6 Gap
100	-	89.2	=	10.8

Step 3 - The CCR*5-6 Gap is used ***to establish Progress Targets*** as determined by multiplying the CCR*5-6 Gap by the associated percentage, e.g. 25% for exceeding, 15% for on track, 5% for approaching.

Table 11. Generating Targets for Progress Measure

	CCR*5-6 Gap				Percent Increase Needed	Years 1 and 2 Average Percent	Years 2 and 3 Average Progress Target
Exceeding	10.8	*	25%	=	2.7	89.2	91.9-100
On Track	10.8	*	15%	=	1.6	89.2	90.8-91.8
Approaching	10.8	*	5%	=	0.5	89.2	89.7-90.7

Step 4 – Add the scores for Years 2 and 3 and divide by two (2) to determine the average rounded to the tenth.

(93.3 + 88.1) / 2 = 90.7

Step 5 - The district's Years 2 and 3 average percentage is used to determine if the district is exceeding, on track, or approaching the required percent increase. In this example, the ABC school district has a Year 2 and 3 average percentage of 90.7, which means that it designated as "Approaching" the Progress Target and subsequently receives two (2) points as its Progress Score in CCR*5-6.

Table12. Computing the College and Career Readiness*5-6 Score

	Status	Progress
Points Possible	2020 Target = 10 On Track = 7.5 Approaching = 6 Floor = 0	Exceeding = 7.5 On Track = 4 Approaching = 2 Floor = 0
College and Career Readiness Total:	Maximum of ten (10) points per indicator area for Status + Progress	

MSIP 5 Performance Standard 3: High School Readiness (HSR) (K-8 LEAs only)

High School Readiness (K-8 Districts) — The district provides adequate post-elementary preparation for all students.

1. The percent of students who earn a proficient score on one (1) or more of the high school end-of-course (EOC) assessments while in elementary school meets or exceeds the state standard or demonstrates required improvement.

Status		Progress	
2020 Target	**10**	**Exceeding**	**7.5**
On Track	**7.5**	**On Track**	**4**
Approaching	**6**	**Approaching**	**2**
Floor	**0**	**Floor**	**0**

Notes:

- Data are obtained from the MOSIS June Enrollment and Attendance file and from official testing companies.
- Eighth grade students are defined as exiting in MOSIS data with a code of R001 Remained Advanced.
- Full Academic Year (FAY) does not apply to the HSR Standard.

Example of supporting data format for APR:

		Year 1	Year 2	Year 3	Status
From MOSIS →	Number of Grade 8 students	63	48	56	
From MOSIS and testing company →	Number of Grade 8 students who earned a qualifying score on a MAP end-of-course assessment	12	8	15	
	Percent of Grade 8 students earning a qualifying score	19.0	16.6	26.8	20.8

Method for calculating Status:

The percent of Grade 8 students who earned a qualifying score on the MAP end-of-course assessments is determined by dividing the number of Grade 8 students who earned a qualifying score on the MAP end-of-course assessments by the total number of Grade 8 students, then multiplying by 100, and rounding to the tenth.

Explanations of Data	Examples of Data (using Year 1-Year 3)	Examples of Calculations
The number of Grade 8 students is based **on June Enrollment and Attendance Records with an Exit Code indicating the student has advanced to Grade 9.**	number of Grade 8 students	63 (Year 1)
The number of Grade 8 students who earned a qualifying score on a MAP EOC assessment is determined by the number of Grade 8 students who earned a proficient or advanced score on a MAP EOC assessment prior to advancing to Grade 9.	The number of Grade 8 students who earned a proficient or advanced score on a MAP EOC assessment prior to Grade 9	12 (Year 1)
The percent of Grade 8 students who earned a qualifying score on the MAP end-of-course assessments is determined by dividing the number of Grade 8 students who earned a qualifying score on a MAP EOC assessment by the total number of Grade 8 students, multiplying by 100 and then rounding to the tenth.	a) number of Grade 8 students = 63 b) number of Grade 8 students who earned a qualifying score = 12	% of "exiting" Grade 8 students who earned a qualifying score = 12 / 63 = 0.190 0.190 * 100 = 19.0%
Status is determined by adding Year 1, Year 2, and Year 3 of the **percent of** Grade 8 students **who earned a qualifying score on a MAP end-of-course assessment,** dividing by three (3) (unless three (3) years of data are not available), and rounding to the tenth.	(Year 1 + Year 2 + Year 3) / 3	19.0 + 16.6 + 26.8 = 62.4 62.4 / 3 = 20.8%

Method for calculating Progress:

Differentiated improvement targets are set for a given LEA or school based on the two (2) prior years' performance of that LEA.

Example: Calculating the progress measure for "ABC" school district, the following example shows how the progress measure is calculated at the district level:

> **Step 1** - Add the scores for Years 1 and 2 and divide by two (2) to determine the average rounded to the tenth.
>
> (19.0 + 16.6) / 2 = 17.8

Step 2 - The average percentage for Years 1 and 2 is subtracted from 50 to determine the HSR*1 Gap.

Baseline		Years 1 and 2 Average Percent		HSR*1 Gap
50	-	17.8	=	32.2

Step 3 - The high school readiness Gap is used ***to establish progress targets*** as determined by multiplying the high school readiness Gap by the associated percentage, e.g., 25% for exceeding, 15% for on track, 5% for approaching.

Table 12. Generating Targets for Progress Measure

	Prior Year HSR Gap				HSR Increase Needed	Prior Year Percent	Progress AMO
Exceeding	32.2	*	25%	=	8.1	17.8	25.9-100
On Track	32.2	*	15%	=	4.8	17.8	22.6-25.8
Approaching	32.2	*	5%	=	1.6	17.8	19.4-22.5

Step 4 – Add the scores for Years 2 and 3 and divide by two (2) to determine the average rounded to the tenth.

(16.6 + 26.8) / 2 = 21.7

Step 5 - The district's Years 2 and 3 average percentage is used to determine if the district is exceeding, on track, or approaching the required percent increase. In this example, the ABC school district has a Year 2 and 3 average percentage of 21.7, which means that it designated as "Approaching" the Progress Target and subsequently receives two (2) points as its Progress Score in HSR.

Table 13. Computing the High School Readiness Score

	Status	Progress
Points Possible	2020 Target = 10 On Track = 7.5 Approaching = 6 Floor = 0	Exceeding = 7.5 On Track = 4 Approaching = 2 Floor = 0
High School Readiness Total:	Maximum of ten (10) points per indicator area for Status + Progress	

MSIP 5 Performance Standard 4: Attendance Rate

Attendance Rate — The district ensures all students regularly attend school.

- The percent of students who regularly attend school meets or exceeds the state standard or demonstrates required improvement.

Attendance targets use the individual student's attendance rate and set the expectation that 90% of the students are in attendance 90% of the time.

Status		% of Students Attending 90% of Time	Progress		Progress Measure Description
2020 Target	**10**	**90.0-100**	**Exceeding**	**7.5**	**3% increase**
On Track	**7.5**	**85.0-89.9**	**On Track**	**4**	**2% increase**
Approaching	**6**	**80.0-84.9**	**Approaching**	**2**	**1% increase**
Floor	**0**	**0-79.9**	**Floor**	**0**	**<1% increase**

Notes:

- Data are obtained from the MOSIS June Cycle Enrollment and Attendance file and from Core Data Screen 10 – School Calendar Information.
- Using the end of the year MOSIS June Student Enrollment Attendance, attendance rate is determined for every student grades K-12 who is reported *any* time in the district, school or grade throughout the year.
- Students reported as Resident I, Non-Resident, DESEG-IN, Federal Lands, and Parent Tuition are included.
- Students with zero (0) hours of attendance are excluded.
- Any time a student transfers, changes grades or changes residency status, a new attendance "segment" is created for the student. For the purposes of this calculation, all segments in the same LEA, school and grade are combined into a set of hours of attendance and absence for that entity.
- Attendance targets use the individual student's attendance rate and set the expectation that 90% of the students are in attendance 90% of the time.
- An individual attendance rate is calculated for each student for the amount of time (segment) the student is enrolled in the LEA, school and grade. Each individual rate is weighted in accordance with the proportion of the school year the student is enrolled in the LEA, school and/or grade. For example, a student who is in attendance over 90% of the time and is enrolled in the school for a full year would be weighted as a 1.0, whereas a student who is in attendance over 90% of the time and is enrolled for 522 hours in a school with a 1044 hour calendar would be weighted as a 0.5.
- Total hours enrolled is the total hours of attendance plus the total hours of absence.
- Total calendar hours are the actual total calendar hours recorded in Core Data Screen 10.
- Student's proportional weight is determined by taking the total hours enrolled for the LEA or school and dividing by the total calendar hours rounded to the thousandth.
- If a student drops out and returns at a later date, the Stop Code may be used for reporting purposes. *A student's absence must exceed 20 consecutive calendar days* in order to use the Stop Out code.

Method for calculating supporting data:

The student's attendance rate is determined by using the **"hours of absence"** method. This method is calculated by dividing the **hours of attendance** by the **total hours enrolled,** then multiplying by 100 rounded to the tenth.

When calculating the LEAs or schools attendance rate the proportional weight of each student is used. The proportional weight is determined by taking the total hours enrolled for the LEA or school and dividing by the total calendar hours rounded to the thousandth.

> **Step 1** - Determine each student's attendance rate and the proportion of time spent in the LEA, school and grade.

Example of "hours of absence" method for the individual student enrolled in the LEA *full year*:

Explanations of Calculations	Examples of Data	Examples of Calculations
The **hours of attendance and the hours of absence for each student** are reported in the MOSIS June Student Enrollment and Attendance.	**Attendance Hours** a) Hours of attendance = 1,012 b) Hours of absence = 32	
1) The **total hours enrolled** for the individual student is determined by the sum of reported hours of attendance + hours of absence		1,012+32=1,044
2) The **attendance rate of the individual student using the "hours of absence" method** is determined by dividing the **hours of attendance for the individual student** by the **total hours enrolled for the individual student**, then multiplying by 100 rounded to the tenth.	a) Hours of attendance = 1,012 b) Total hours enrolled = 1,044	1,012 / 1,044 = 0.969 0.969 * 100 = 96.9%
3) The **total calendar hours** is reported on Core Data Screen 10	a) Total calendar hours = 1,044	
4) Each student's proportional weight is determined by the **total hours enrolled** divided by the **total calendar hours** rounded to the thousandth.	a) Hours of attendance = 1,012 b) Hours of absence = 32 c) Total calendar hours = 1,044	1,012 + 32 = 1,044 1,044 / 1,044 = 1.0

Example of "hours of absence" method for the individual student enrolled in the LEA *less than full year*:

Explanations of Calculations	Examples of Data	Examples of Calculations
The **hours of attendance and the hours of absence for each student** are reported in the MOSIS June Student Enrollment and Attendance.	**Attendance Hours** a) Hours of attendance = 249 b) Hours of absence = 30	
1) The **hours possible** for the **individual student** is determined by the sum of reported hours of attendance + hours of absence		249 + 30 = 279
2) The **attendance rate of the individual student using the "hours of absence" method** is determined by dividing the **hours of attendance for the individual student** by the total hours enrolled **for the individual student**, then multiplying by 100 rounded to the tenth.	a) Hours of attendance = 249 b) Total hours enrolled = 279	249 / 279 = 0.893 0.893 * 100 = 89.3%
3) The **total calendar hours enrolled** are reported on Core Data Screen 10	a) Total calendar hours enrolled = 1,062	
4) Each student's proportional weight of attendance is determined by the **total hours enrolled** divided by the **total calendar hours** rounded to the thousandth.	a) Hours of attendance = 249 b) Hours of absence = 30 c) Calendar hours as reported on Core Data Screen 10 = 1,062	249 + 30 = 279 279 / 1,062 = 0.263

Step 2 - Determine the LEA and school's proportional attendance rate.

Explanations of Calculations	Examples of Data	Examples of Calculations
All students are included in the denominator. Any student with an attendance rate equal to or greater than 90% is included in the numerator and the denominator. Any student with an attendance rate less than 90% is included in the denominator only.	**Attendance Hours** a) Attendance Rate ≥ 90% = numerator b) All Students = denominator	
1) Using the two (2) examples above, student 1 is in attendance over 90% with a proportional weight of 1.0. Student 2 is in attendance less than 90% with a proportional weight of 0.263.	a) Numerator = 1.0 + 0 b) Denominator = 1.0 + 0.263	1.0 + 0 = 1.0 1.0 + 0.263 = 1.263
2) The percent of students with an attendance rate at or above the state standard is determined by dividing the "proportion" of students scoring at or above the state standard by the "proportion" of students attendance that year, and then multiplying by 100 rounded to the tenth.		1.0 / 1.263 = 0.792 0.792 * 100 = 79.2%
3) **The district's or school's Status** is determined by adding Year 1, Year 2, and Year 3 of the **percent of students with an attendance rate at or above the state standard.**	(Year 1 + Year 2 + Year 3) / 3	79.2 + 87.3 + 88.9 = 255.4 255.4 / 3 = 85.1%

Method for calculating Progress:
Improvement targets are set for LEAs, or school based on the individual group's prior two (2) years of status. A 3% increase = "Exceeding;" a 2% increase = "On Track" and a 1% increase = "Approaching".

Example: The following example shows how the Progress measure is calculated at the district level for a school district:

> **Step 1** - Add the scores for Years 1 and 2 and divide by two (2) to determine the average rounded to the tenth.
>
> (79.2 + 87.3) / 2 = 83.3
>
> **Step 2** - Add the scores for Years 2 and 3 and divide by two (2) to determine the average rounded to the tenth.
>
> (87.3 + 88.9) / 2 = 88.1
>
> **Step 3** – Subtract the average of Year 1 and Year 2 from the average of Year 2 and Year 3. The result is the amount of Progress.
>
> 88.1 – 83.3 = 4.8

In the example below the school district has a Progress score of 4.8% which places that district above 3% which results in a score of "Exceeding."

Table 14. Generating Standard 4: Attendance Progress

3 Years of Attendance at or above the state standard		
Year 1	**Year 2**	**Year 3**
79.2	**87.3**	**88.9**
	(79.2 + 87.3) / 2	(87.3 + 88.9) / 2
	83.3	**88.1**
	88.1 – 83.3 = 4**.8**	

Table 15. Computing the Attendance Score

	Status	**Progress**
Points Possible	2020 Target = 10 On Track = 7.5 Approaching = 6 Floor = 0	Exceeding = 7.5 On Track = 4 Approaching = 2 Floor = 0
Attendance Total:	Maximum of ten (10) points per indicator area for Status + Progress	

MSIP 5 Performance Standard 5: Graduation Rate

Graduation Rate (K-12 Districts) — The district ensures all students successfully complete high school.

1. The percent of students who complete an educational program that meets the graduation requirements as established by the board meets or exceeds the state standard or demonstrates required improvement.

Status		4, 5, 6 or 7 Year Rate	Progress		Progress Measure Description
2020 Target	**30**	**92.0-100**	**Exceeding**	**22.5**	If Status = Floor, 9% increase needed
					If Status = Approaching, 6% increase needed
					If Status = On Track or 2020 Target, 3% increase needed
On Track	**22.5**	**82.0-91.9**	**On Track**	**12**	If Status = Floor, 6% increase needed
					If Status = Approaching, 4% increase needed
					If Status = On Track or 2020 Target, 2% increase needed
Approaching	**18**	**72.0-81.9**	**Approaching**	**6**	If Status = Floor, 3% increase needed
					If Status = Approaching, 2% increase needed
					If Status = On Track or 2020 Target, 1% increase needed
Floor	**0**	**0-71.9**	**Floor**	**0**	< Stated increase

High schools and LEAs with high schools are required to meet a four-, five-, six-, or seven-year Status Target or a combination of Status and Progress Targets for the four-, five–, six-, or seven-year rate to receive full credit for graduation rate on the APR. The five-, six-, and seven-year rates track students for up to seven years, but are otherwise calculated in the same manner as the four-year graduation rate. For example, the fifth-year students remain in their original cohort and that cohort is recalculated based on the aggregate number of students graduating with a regular diploma within a five-year timeframe. The four-, five-, six- and seven-year graduation rates are calculated, and the better of the four (4) is used to determine if schools and LEAs have met the graduation rate target or have shown sufficient improvement.

Notes:

- Graduation targets will be reviewed and revised, if necessary, every three (3) years.
- Data are obtained from the MOSIS June Enrollment and Attendance file.
- **Four-Year Adjusted Cohort Graduation Rate Definition -** The four-year adjusted cohort graduation rate is the number of students who graduate in four (4) years with a regular high school diploma divided by the number of students who form the adjusted cohort for the graduating class rounded to the tenth. From the beginning of 9th grade, students who are entering that grade for the first time form a cohort that is subsequently "adjusted" by adding any students who transfer into the cohort later during the 9th grade and the next three (3) years and subtracting any students who transfer out, emigrate to another country, or die during that same period.
- **Five-Year Adjusted Cohort Graduation Rate Definition -** The five-year adjusted cohort graduation rate is calculated the same as the four-year with the exception that it includes both four- and five-year graduates in the fifth-year cohort.
- **Six-Year Adjusted Cohort Graduation Rate Definition -** The six-year adjusted cohort graduation rate is calculated the same as the four– and five-year rate with the exception that it includes four-, five-, and six-year graduates from the original 9th grade cohort.
- **Seven-Year Adjusted Cohort Graduation Rate Definition -** The seven-year adjusted cohort graduation rate is calculated the same as the four–, five-, and six-year rate with the exception that it includes four-, five-, six-, and seven-year graduates from the original 9th grade cohort.
- **Graduating Attendance Centers with grades 10, 11, 12 or 11, 12 -** Attendance centers which do not include the 9th grade will use the same calculation as those attendance centers which include the 9th grade with the exception of substituting the next lowest grade level taught in the attendance center beyond the 9th grade for the beginning of the adjusted cohort.

- **Cohort Inclusion** – Students are included in the LEA's adjusted cohort when they become a first time 9th grader and enter the district with the following entry codes.

S100	Stop Out: Entry
T101	Transfer from a public school outside district but within state
T102	Transfer from pub school within district
T103	Transfer from home school in state
T104	Transfer from private school in state
T105	Transfer from pub school out of state
T106	Transfer from private school out of state
T107	Transfer from home school out of state
T108	Transfer from drop-out
T109	Transfer from another country
T100	Transfer In Unknown
R101	Remained: Advanced
R102	Remained: Retained
R103	Remained: Other
R104	Remained: Changed Grade
E100	Initial Entry

Note: If the student is reported for the first time as a 9th grader and has an entry code of R102 – Remained Retained or R103 – Remained Other that student is placed in the prior year cohort based on the assumption that student had been retained one (1) year.

- **Cohort Exclusion** – Students are removed from the LEA's cohort if they exit the school district with the following exit status.

T001	Transfer to a public school outside district but within state
T003	Transfer to home school in state
T004	Transfer to private school in state
T005	Transfer to public school out of state
T006	Transfer to private school out of state
T007	Transfer to home school out of state
T008	Transfer to another country
T009	Deceased
T000	Transfer out Unknown

Example of the four-year cohort graduation rate calculation:

Explanations of Calculations	Examples of Data	Examples of Calculations
1) The **number of cohort members who earned a regular high school diploma by the end of the starting cohort's fourth high school year = number of cohort graduates** reported in the MOSIS June Student Enrollment and Attendance.	Graduates = 900	
2) The **four-year "adjustments"** are reported in the MOSIS June Student Enrollment and Attendance File.	2010: First Time 9th Graders (Starting Cohort 2010 members)+ Transfers in – Transfers out	1,000 + 0 – 50 = 950
	2011: Cohort 2010 + Transfers in – Transfers out	950 + 25 - 50 = 925
	2012: Cohort 2010 + Transfers in – Transfers out	925 + 75 - 25 = 975
	Class of 2013: Cohort 2009 + Transfers in – Transfers out	975 + 50 - 25 = 1,000
3) The **four-year adjusted cohort** is calculated based on reported adjustments.	(1,000 - 50) + (25 - 50) + (75 - 25) + (50 - 25)	950 – 25 + 50 + 25 = 1,000
4) The **four-year adjusted cohort graduation rate** is determined by dividing the number of cohort graduates by the number of first-time 9th graders in the starting cohort plus students who transfer in, minus students who transfer out, emigrate, or become deceased during the cohort's four high school years, then multiplying by 100 rounded to the tenth.	a) number of four-year cohort graduates or less = 900 b) number of adjusted cohort members = 1000	900 / 1,000 = 0.900 0.900 * 100 = 90.0%
5) **The district's or school's Status** is determined by adding Year 1, Year 2, and Year 3 of the **adjusted cohort graduation rate** and dividing by three (3) rounded to the tenth.	(Year 1 + Year 2 + Year 3) / 3	87.3 + 88.8 + 90.0 = 266.1 266.1 / 3 = 88.7%

Example of the five-year cohort graduation rate calculation:

Explanations of Calculations	Examples of Data	Examples of Calculations
1) The **number of cohort members who earned a regular high school diploma by the end of the cohort's fifth high school year is** reported in the MOSIS June Student Enrollment and Attendance.	Graduates = 920	
2) The **five-year "adjustments"** are reported in the MOSIS June Student Enrollment and Attendance File.	2010: First Time 9th Graders (Starting Cohort 2010 members) + Transfers in – Transfers out	1,000 + 0 – 50 = 950
	2011: Cohort 2010 + Transfers in – Transfers out	950 + 25 - 50 = 925
	2012: Cohort 2010 + Transfers in – Transfers out	925 + 75 - 25 = 975
	2013: Cohort 2010 + Transfers in – Transfers out	975 + 50 - 25 = 1,000
	2014: Cohort 2010 (Class of 2013) + Cohort 2010 Transfers in – Cohort 2010Transfers out	1,000 + 10 – 5 = 1,005
3) The **five-year adjusted cohort** is calculated based on reported adjustments.	(1,000 - 50) + (25 - 50) + (75 - 25) + (50 - 25)+(10 - 5)	950 – 25 + 50 + 25 + 5 = 1,005
4) The **five-year adjusted cohort graduation rate** is determined by dividing the number of cohort members who earned a regular high school diploma by the end of the cohort's fifth high school year by the number of first-time 9th graders in the starting cohort + plus students who transfer in, minus students who transfer out, emigrate, or become deceased during the cohort's five (5) high school years, then multiplying by 100 rounded to the tenth.	a) number of five-year cohort graduates = 920 b) number of adjusted cohort members = 1,005	920 / 1005 = 0.916 0.916 * 100 = 91.6%
5) **The district's or school's Status** is determined by adding Year 1, Year 2, and Year 3 of the **five-year adjusted cohort graduation rate** and dividing by three (3) rounded to the tenth.	(Year 1 + Year 2 + Year 3) / 3	88.3 + 89.8 + 91.6 = 269.7 269.7 / 3 = 89.9%

Method for calculating Progress:

Improvement targets are set for LEAs, and schools based on the individual group's three (3) year average for Status.

If Status = Floor		If Status = Approaching		If Status = On Track or 2020 Target	
2020 Target =	9%	**2020 Target =**	6%	**2020 Target =**	3%
On Track =	6%	**On Track =**	4%	**On Track =**	2%
Approaching Target =	3%	**Approaching Target =**	2%	**Approaching Target =**	1%

Example: The following example shows how the Progress Measure is calculated at the district level for a school district:

Step 1 – Determine the Status of the district. In this example, the district's three-year average = 89.9%, which means it is "On Track" with the Status Measure; as a result, the district's rolling average targets are 3% 2020 target, 2% on track, and 1% approaching.

Step 2 - Add the scores for Years 1 and 2 and divide by two (2) to determine the average rounded to the tenth.

(88.3 + 89.8) / 2 = 89.1

Step 3 - Add the scores for Years 2 and 3 and divide by two (2) to determine the average rounded to the tenth.

(89.8 + 91.6) / 2 = 90.7

Step 4 – Subtract the average of Year 1 and Year 2 from the average of Year 2 and Year 3. The result is the amount of Progress. In the example below the school district has a Progress Score of 1.6%, which places that district between the 1% and 2%, which results in a score of "Approaching."

Table 16. Generating Graduation Progress

3 Years of Graduation Rate		
Year 1	**Year 2**	**Year 3**
88.3	**89.8**	**91.6**
	(88.3 + 89.2) / 2	(89.8 + 91.6) / 2
	89.1	**90.7**
	90.7 – 89.1 = **1.6**	

Table 17. Computing Graduation Rate Score

	Status	Progress
Points Possible	2020 Target = 30 On Track = 22.5 Approaching = 18 Floor = 0	Exceeding = 22.5 On Track = 12 Approaching = 6 Floor = 0
Graduation Rate Total:	Maximum of thirty (30) points per indicator area for Status + Progress	

MSIP 5 Generating the APR (Annual Performance Report) Score

Generating the APR Score
Once the scores for Academic Achievement, Subgroup Achievement, College and Career or High School Readiness, Attendance Rate and Graduation Rate have been generated, they are combined into a single score. The APR score is used to differentiate among LEA performance, and to make classification determinations of accreditation; Accredited with Distinction, Accredited, Provisional and Unaccredited designations.

Table 19. Computational Table for Generating a Final Score

	Standard 1: Academic Achievement					
	English Language Arts	**Mathematics**	**Science**	**Social Studies**	**K-12**	**K-8**
Status Score	0 – 9 – 12 – 16	0 – 9 – 12 – 16	0 – 9 – 12 – 16	0 – 5 – 6 – 8		
Progress Score	0 – 3 – 6 – 12	0 – 3 – 6 – 12	0 – 3 – 6 – 12	0 – 1.5 – 3 – 6		
Growth Score	0 – 6 – 12	0 – 6 – 12				
Possible Points	Max Score: 16	Max Score: 16	Max Score: 16	Max Score: 8	Max: 56	Max: 48
Points Earned:						
	Standard 2: Subgroup Achievement					
	English Language Arts	**Mathematics**	**Science**	**Social Studies**	**K-12**	**K-8**
Status Score	0 – 2 – 3 – 4	0 – 2 – 3 – 4	0 – 2 – 3 – 4	0 – 1 – 1.5 – 2		
Progress Score	0 – 1 – 2 – 3	0 – 1 – 2 – 3	0 – 1 – 2 – 3	0 – .5 – 1 – 1.5		
Growth Score	0 – 2 – 3	0 – 2 – 3				
Possible Points	Max Score: 4	Max Score: 4	Max Score: 4	Max Score: 2	Max: 14	Max: 12
Points Earned:						
	Standard 3: College and Career Readiness (K-12) and Standard 3: High School Readiness (K-8)					
	CCR*1-3	**CCR*4**	**CCR*5-6**	**HSR**	**K-12**	**K-8**
Status Score	0 – 6 – 7.5 – 10	0 – 6 – 7.5 – 10	0 – 6 – 7.5 – 10	0 – 6 – 7.5 – 10		
Progress Score	0 – 2 – 4 – 7.5	0 – 2 – 4 – 7.5	0 – 2 – 4 – 7.5	0 – 2 – 4 – 7.5		
Possible Points	Max Score: 10	Max Score: 10	Max Score: 10	Max Score: 10	Max: 30	Max: 10
Points Earned:						

	Standard 4: Attendance Rate Standard 5: Graduation Rate (LEAs and schools with Grade 12)					
	Attendance	**Graduation**			**K-12**	**K-8**
Status Score	0 – 6 – 7.5 – 10	0 – 18 – 22.5 – 30				
Progress Score	0 – 2 – 4 – 7.5	0 – 6 – 12 – 22.5				
Possible Points	Max Score: 10	Max Score: 30			Max: 40	Max: 10
Points Earned:						
Total:					**Total Points Possible: 140**	**Total Points Possible: 80**

Total points earned is divided by the total points possible for the school or LEA then multiplied by 100 to determine the percent of points earned rounded to the tenth. The total percent of points possible earned is then used at the district level to determine a district's accreditation *status*. The accreditation *status* of three (3) consecutive APRs is then used to inform *district classification* recommendations to the State Board of Education.

Notes:

- Three (3) APRs, each reflecting three (3) years of performance data, will be used for classification recommendations. This means that for the vast majority of districts, the department will review a district's 2013 APR, 2014 APR, and 2015 APR for MSIP 5 accreditation classifications in fall of 2015. If a district's accreditation warrants a change from its classification prior to 2015, the district's fourth cycle APR will be reviewed in conjunction with the MSIP 5 APR.
- The percent of overall points may be earned through Status, Progress or Growth (where applicable).
- APR Reports and supporting reports are located in Missouri Comprehensive Data System Portal at http://mcds.dese.mo.gov/Pages/default.aspx.

Classification / Accreditation Process

Step 1 -The Department produces the District's Annual Performance Report which provides an objective analysis of each district's attainment of the MSIP 5 Performance Standards and Indicators. A district's *Accreditation Classification* remains intact until the State Board of Education rules otherwise. However, the percent of overall points earned on the APR defines each district's *APR Accreditation Status* that year, using one (1) of the following accreditation categories:

Accreditation Levels	**Percent of Points Earned**
Accredited with Distinction	The district earned a minimum of 90% or more of the APR points possible AND meets other criteria as established by the State Board of Education;
Accredited	The district earned 70% or more of the APR points possible;
Provisionally Accredited	The district earned 50% or more of the APR points possible;
Unaccredited	The district earned less than 50% of the APR points possible.

Step 2 - The Department reviews each district's accreditation status and the APR supporting data for the three (3) most recent APRs to identify trends and status in performance outcomes. If data trends indicate that the district's full accreditation is or may be in jeopardy, the district may be asked to submit its Comprehensive School Improvement Plan (CSIP) to the Department and assistance through the Regional School Improvement Team (RSIT) may be activated.

Step 3 -The Department shall use the data review process described in "Step 2" to make accreditation classification recommendations to the State Board of Education. **Recommendations will be made based on APR status and APR trends and may include other factors as appropriate, e.g. CSIP goals, previous Department MSIP findings, financial status, and/or leadership stability**. Recommendations regarding accreditation classification are presented to the State Board of Education for its approval. Districts are notified by the Department of the accreditation classification assigned by the board.

MSIP 5 Generating Performance Indicator Flags

Generating Performance Indicator Flags
Performance indicator flags identified through the accountability system are utilized to further distinguish among those schools and LEAs most in need of support, to identify areas in need of improvement, and to guide the school improvement planning. For example, one school may have an overall high score but may also rank in the lowest 10th percentile for a given subgroup on a given indicator. This low proficiency rank would be addressed in the CSIP. Similarly, schools ranking at the 90th percentile and above for a given subgroup or grade span area for a specific indicator are spotlighted for high achievement. Reports are calculated annually based on the current academic year for each subgroup (school and LEA level reports), grade level (school reports), and grade span (LEA reports).

Rules for School-Level Proficiency Rate Assignment
The percent proficient (e.g., percent with Proficient or Advanced-level achievement) is calculated for each subgroup—e.g., White, Black, Hispanic, Multiracial, Asian, American Indian, ELL, FRL and students with disabilities and grade level for each subject area, annually for the academic achievement indicators. School-level percent proficient values within each combination are ranked, and the 10th and 90th percentiles are determined. Performance at or below the 10th percentile, or at or above the 90th percentile, is flagged for reporting.

- *For example*, in schools with a grade 3 population for which at least 30 reportable English language arts scores are available, grade 3 English language arts proficiency rates are calculated, then schools are ranked according to this measure. Those schools with a grade 3 English language arts proficiency rate in the bottom 10th percentile are assigned one (1) flag.
- Identical reporting processes are used if they meet or exceed the 90th percentile.
- Similar reporting process are used for school-level assignments for the college and career readiness, high school readiness, attendance and graduation rate indicators, except the metric used for the indicator (e.g., percent of students scoring at or above the state standard, attendance rate, graduation rate) is used in place of percent proficient.

Rules for LEA-Level Proficiency Rate Assignment
While the above rules specifically refer flag assignment for schools, LEAs are also reviewed for potential flags. For subgroup determinations, the same rules provided would be applied to LEAs in an effort to identify systemic issues affecting multiple schools and highlight district-wide policies contributing to poor or exemplary student performance.

Additionally, flags are assigned based on grade span performance at the LEA level, rather than grade level, by subject area. This is accomplished by pooling district-wide assessment scores into three (3) groupings based on student grade level—grades 3-5 (elementary), 6-8 (middle), and 9-12 (high school)—and calculating proficiency rates for each grade span/subject area combination.

MSIP 5 2014 Annual Performance Report (APR) Notes

Standard 1: Academic Achievement

- See Appendix A for projected status targets through the year 2020. These targets will be revisited in 2015. The accountability year begins with the summer administration of any EOC assessments or MAP-A.
- The LEA will determine which assessment, the GLA or EOC, is the most appropriate measure for each individual student. Please see the October 2, 2012 Algebra I EOC Administrative Memo for specific guidance. http://dese.mo.gov/sites/default/files/am/documents/qs-esea-waiver-algebra1-eoc-QS-12-004.pdf
    - To ensure a consistent metric of annual improvement is applied to the MSIP 5 APR, GLA scores have been removed from 2011 and 2012 mathematics data for middle school students who participated in both the mathematics GLA and Algebra I EOC in the same accountability year.
- Once a student has scored proficient or advanced on an end-of-course (EOC) assessment, the Department will remove duplicate proficient/advanced scores beginning the school year 2012-2013.
- A new Assessment Plan was adopted January 2014 by the state board of education. All proposed changes in the plan pertain to school year 2014-2015. Please see the March 12, 2014, Revised Assessment Plan Administrative Memo for specific guidance.
  http://dese.mo.gov/sites/default/files/am/documents/QS-14-002.pdf
  Major points in the revised plan:
    - Administer ACT® to 11th grade students (Please see the May 29, 2014, ACT® Statewide Test Administration Administrative Memo for specific guidance http://dese.mo.gov/sites/default/files/am/documents/CCR-14-008.pdf);
    - Maintain EOCs in Algebra I, Algebra II, English II, Biology, and Government Maintain English language arts and mathematics testing requirements for grades 5 and 8 using Smarter Balanced system;
    - Administer survey assessment in grades 3, 4, 6, 7 using Missouri developed testing blueprint; and
    - Maintain Missouri developed science assessments for grades 5 and 8.

Standard 2: Subgroup Achievement

- The super subgroup is used for accountability determinations in the APR. When the minimum "n" size of 30 is not reached using a three (3) year cumulative "pooling" of the data, no determination is made.

Standard 3: College and Career Readiness

- Approved Industry Recognized Credential (IRC) / (Technical Skills Attainment (TSA)) are included in the 2014 APR. See Appendix F for approved Technical Skills Attainment (TSA) assessments that can be used to obtain an Industry Recognized Credential (IRC).
- Test Scores for high school level Project Lead The Way (PLTW) are included in the 2014 APR. For additional information please see http://dese.mo.gov/college-career-readiness/career-education/project-lead-way.

Table 20. Student Level Data Collected

Standard	Type	2009	2010	2011	2012 MSIP 5	2013 MSIP 5	2014 MSIP 5
CCR*1-3	ACT®/COMPASS®/SAT®/ASVAB	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
CCR*4	Test scores AP/IB	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
CCR*4	Dual credit/AP/IB courses	**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**
CCR*4	IRC/(TSA)	**No**	**No**	**No**	**No**	**Yes**	**Yes**
CCR*4	Test Scores PLTW	**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**
CCR*5-6	Follow-Up Data	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

Standard 3: High School Readiness

- Calculation for the 2014 APR is based on three consecutive years of data, 2012, 2013 and 2014. EOC tests taken in mathematics, science and/or English language arts will be included in the academic achievement indicator, the subgroup indicator and the high school readiness indicator. If one (1) student takes multiple EOC tests, the single highest score would be included in the high school readiness indicator. An EOC taken in social studies would only be included in the high school readiness indicator, as there is not a social studies indicator in the K-8 district APR.

Standard 4: Attendance

- The Stop Out Code was added by the Department to provide districts an appropriate way to report students who dropped out and then returned at a later date having been out of school for unknown reasons an extended period of time. Data-reporting parameters are being implemented to fulfill requests from districts that the Department establish clear guidance for ***self-reported*** Annual Performance Report (APR) supporting data to ensure a more standardized approach across the state. *The Stop Out Code may not be used unless the absence exceeds 20 consecutive calendar days.* Beginning with SY 2013-2014, districts will receive an error message for the use of a Stop out code for fewer than 20 consecutive calendar days and will not be able to certify their data.

Standard 5: Graduation Rate

- The four-, five-, six- and seven-year graduation rates are calculated, and the better of the four (4) is used for APR determinations. The four-year rate could first be calculated with 2011 graduates. The five-year rate could first be calculated with the 2012 graduates. The six-year rate could first be calculated with the 2013 graduates. The seven-year rate could first be calculated with the 2014 graduates. The 2014 APR includes three (3) years of data for the four-year rate and the five-year rate. It includes two (2) years of data for the six-year rate resulting in a two-year status determination and one (1) year of annual improvement. It includes one (1) year of data for the seven-year rate, resulting in a one-year status determination. The 2014 APR will include two (2) years of data for the six-year rate, resulting in a two-year status determination and one (1) year of annual improvement; the four-and five-year rates will include the customary three (3) years of data, and one (1) year of data for the seven-year rate, resulting in a one-year status determination The phase-in of this indicator will be complete with the 2016 APR, which will include the customary three (3) years of data for the four-, five-, six-, and seven-year rates.

- The seven-year adjusted cohort graduation rate is calculated the same as the four–,five- , and six-year rate but will include four-, five-, six-, and seven-year graduates from the original 9th grade cohort. Seven-year cohort graduation rate will be calculated for the first time and included in the 2014 APR.

Performance Rubrics

STANDARD 1*1 MAP ACADEMIC ACHIEVEMENT *English Language Arts*

STATUS			PROGRESS			GROWTH		
Status Measures	**Status Points Earned**	**MPI Score (3-Year Average)**	**Progress Measures**	**Progress Points Earned**	**Progress Measure Description**	**Growth Measures**	**Growth Points Earned**	**Growth Measure Description**
2020 Target	16	385.7 - 500	**Exceeding**	12	5% of MPI Gap increase	**Exceeding**	12	a statistically significant score>50
On Track	12	365.5 – 385.6	**On Track**	6	3% of MPI Gap increase	**On Track**	6	not statistically significant growth estimates
Approaching	9	300.0 – 365.4	**Approaching**	3	1% of MPI Gap increase			
Floor	0	100.0 – 299.9	**Floor**	0	<1% of MPI Gap increase	**Floor**	0	a statistically significant score <50

Level Not Determined (LND): Zero (0) points will be awarded for data when the LND is exceeded.
Academic Achievement Total: Status + Progress OR Growth (whichever is higher)
A maximum of 16 points may be applied to the LEA or school level score.
Status targets change annually. See the Top 10 by 20 Projected Status Targets in the Appendix.

STANDARD 1*2 MAP ACADEMIC ACHIEVEMENT *Mathematics*

STATUS			PROGRESS			GROWTH		
Status Measures	**Status Points Earned**	**MPI Score (3-Year Average)**	**Progress Measures**	**Progress Points Earned**	**Progress Measure Description**	**Growth Measures**	**Growth Points Earned**	**Growth Measure Description**
2020 Target	16	392.8 – 500	**Exceeding**	12	5% of MPI Gap increase	**Exceeding**	12	a statistically significant score>50
On Track	12	358.4 - 392.7	**On Track**	6	3% of MPI Gap increase	**On Track**	6	not statistically significant growth estimates
Approaching	9	300.0 – 358.3	**Approaching**	3	1% of MPI Gap increase			
Floor	0	100.0 – 299.9	**Floor**	0	<1% of MPI Gap increase	**Floor**	0	a statistically significant score <50

Level Not Determined (LND): Zero (0) points will be awarded for data when the LND is exceeded.
Academic Achievement Total: Status + Progress OR Growth (whichever is higher)
A maximum of 16 points may be applied to the LEA or school level score.
Status targets change annually. See the Top 10 by 20 Projected Status Targets in the Appendix.

STANDARD 1*3 MAP ACADEMIC ACHIEVEMENT *Science*

STATUS			PROGRESS		
Status Measures	**Status Points Earned**	**MPI Score (3-Year Average)**	**Progress Measures**	**Progress Points Earned**	**Progress Measure Description**
2020 Target	16	352.8 - 500	**Exceeding**	12	5% of MPI Gap increase
On Track	12	345.5 - 352.7	**On Track**	6	3% of MPI Gap increase
Approaching	9	300.0 – 345.4	**Approaching**	3	1% of MPI Gap increase
Floor	0	100.0 – 299.9	**Floor**	0	<1% of MPI Gap increase

Level Not Determined (LND): Zero (0) points will be awarded for data when the LND is exceeded.
Academic Achievement Total: Status + Progress
A maximum of 16 points may be applied to the LEA or school level score.
Status targets change annually. See the Top 10 by 20 Projected Status Targets in the Appendix.

STANDARD 1*4 MAP ACADEMIC ACHIEVEMENT *Social Studies*

STATUS			PROGRESS		
Status Measures	**Status Points Earned**	**MPI Score (3-Year Average)**	**Progress Measures**	**Progress Points Earned**	**Progress Measure Description**
2020 Target	8	375.0 - 500	**Exceeding**	6	5% of MPI Gap increase
On Track	6	347.1 -374.9	**On Track**	3	3% of MPI Gap increase
Approaching	5	300.0 – 347.0	**Approaching**	1.5	1% of MPI Gap increase
Floor	0	100.0 – 299.9	**Floor**	0	<1% of MPI Gap increase

Level Not Determined (LND): Zero (0) points will be awarded for data when the LND is exceeded.
Academic Achievement Total: Status + Progress
A maximum of eight (8) points may be applied to the LEA or school level score.
Status targets change annually. See the Top 10 by 20 Projected Status Targets in the Appendix.

STANDARD 2*1 MAP SUBGROUP ACHIEVEMENT *English Language Arts*

STATUS			PROGRESS			GROWTH		
Status Measures	**Status Points Earned**	**MPI Score (3-Year Average)**	**Progress Measures**	**Progress Points Earned**	**Progress Measure Description**	**Growth Measures**	**Growth Points Earned**	**Growth Measure Description**
2020 Target	4	385.7 - 500	**Exceeding**	3	5% of MPI Gap increase	**Exceeding**	3	a statistically significant score>50
On Track	3	342.0 – 385.6	**On Track**	2	3% of MPI Gap increase	**On Track**	2	not statistically significant growth estimates
Approaching	2	300.0 – 341.9	**Approaching**	1	1% of MPI Gap increase			
Floor	0	100.0 – 299.9	**Floor**	0	<1% of MPI Gap increase	**Floor**	0	a statistically significant score <50

Level Not Determined (LND): Zero (0) points will be awarded for data when the LND is exceeded.
Academic Achievement Total: Status + Progress OR Growth (whichever is higher)
A maximum of four (4) points may be applied to the LEA or school level score.
Status targets change annually. See the Top 10 by 20 Projected Status Targets in the Appendix.

STANDARD 2*2 MAP SUBGROUP ACHIEVEMENT *Mathematics*

STATUS			PROGRESS			GROWTH		
Status Measures	**Status Points Earned**	**MPI Score (3-Year Average)**	**Progress Measures**	**Progress Points Earned**	**Progress Measure Description**	**Growth Measures**	**Growth Points Earned**	**Growth Measure Description**
2020 Target	4	392.8 - 500	**Exceeding**	3	5% of MPI Gap increase	**Exceeding**	3	a statistically significant score>50
On Track	3	335.5 - 392.7	**On Track**	2	3% of MPI Gap increase	**On Track**	2	not statistically significant growth estimates
Approaching	2	300.0 – 335.4	**Approaching**	1	1% of MPI Gap increase			
Floor	0	100.0 – 299.9	**Floor**	0	<1% of MPI Gap increase	**Floor**	0	a statistically significant score <50

Level Not Determined (LND): Zero (0) points will be awarded for data when the LND is exceeded.
Academic Achievement Total: Status + Progress OR Growth (whichever is higher)
A maximum of four (4) points may be applied to the LEA or school level score.
Status targets change annually. See the Top 10 by 20 Projected Status Targets in the Appendix.

STANDARD 2*3 SUBGROUP ACHIEVEMENT *Science*					
STATUS			**PROGRESS**		
Status Measures	**Status Points Earned**	**MPI Score (3-Year Average)**	**Progress Measures**	**Progress Points Earned**	**Progress Measure Description**
2020 Target	4	352.8 - 500	**Exceeding**	3	5% of MPI Gap increase
On Track	3	314.2 - 352.7	**On Track**	2	3% of MPI Gap increase
Approaching	2	300.0 – 314.1	**Approaching**	1	1% of MPI Gap increase
Floor	0	100.0 – 299.9	**Floor**	0	<1% of MPI Gap increase
Level Not Determined (LND): Zero (0) points will be awarded for data when the LND is exceeded. **Subgroup Achievement Total:** Status + Progress A maximum of four (4) points may be applied to the LEA or school level score. **Status targets change annually. See the Top 10 by 20 Projected Status Targets in the Appendix.**					

STANDARD 2*4 SUBGROUP ACHIEVEMENT *Social Studies*					
STATUS			**PROGRESS**		
Status Measures	**Status Points Earned**	**MPI Score (3-Year Average)**	**Progress Measures**	**Progress Points Earned**	**Progress Measure Description**
2020 Target	2	375.0 – 500	**Exceeding**	1.5	5% of MPI Gap increase
On Track	1.5	313.8 - 374.9	**On Track**	1	3% of MPI Gap increase
Approaching	1	300.0 – 313.7	**Approaching**	0.5	1% of MPI Gap increase
Floor	0	100.0 – 299.9	**Floor**	0	<1% of MPI Gap increase
Level Not Determined (LND): Zero (0) points will be awarded for data when the LND is exceeded. **Subgroup Achievement Total:** Status + Progress OR Growth (whichever is higher) A maximum of two (2) points may be applied to the LEA or school level score. **Status targets change annually. See the Top 10 by 20 Projected Status Targets in the Appendix.**					

STANDARD 3*1-3 COLLEGE AND CAREER READINESS					
STATUS			**PROGRESS**		
Status Measures	**Status Points Earned**	**Percent of graduates scoring at or above the state standard**	**Progress Measures**	**Progress Points Earned**	**Progress Measure Description**
2020 Target	10	71.5 - 100%	**Exceeding**	7.5	25% of CCR*1-3 Gap increase
On Track	7.5	62.8 - 71.4%	**On Track**	4	15% of CCR*1-3 Gap increase
Approaching	6	40.0 – 62.7%	**Approaching**	2	5% of CCR*1-3 Gap increase
Floor	0	0.0 - 39.9%	**Floor**	0	<5% of CCR*1-3 Gap increase
CCR*1-3 Total: Status + Progress A maximum of ten (10) points may be applied to the LEA or school level score. **Status targets change annually. See the Top 10 by 20 Projected Status Targets in the Appendix.**					

STANDARD 3*4 COLLEGE AND CAREER READINESS					
STATUS			**PROGRESS**		
Status Measures	**Status Points Earned**	**Percent of graduates earning a qualifying score**	**Progress Measures**	**Progress Points Earned**	**Progress Measure Description**
2020 Target	10	47.8 - 100%	**Exceeding**	7.5	25% of CCR*4 Gap increase
On Track	7.5	39.9 - 47.7%	**On Track**	4	15% of CCR*4 Gap increase
Approaching	6	5.0 – 39.8%	**Approaching**	2	5% of CCR*4 Gap increase
Floor	0	0.0 - 4.9%	**Floor**	0	<5% of CCR*4 Gap increase
CCR*4 Total: Status + Progress A maximum of ten (10) points may be applied to the LEA or school level score. **Status targets change annually. See the Top 10 by 20 Projected Status Targets in the Appendix.**					

STANDARD 3*5-6 COLLEGE AND CAREER READINESS					
STATUS			**PROGRESS**		
Status Measures	**Status Points Earned**	**Percent of post-secondary placement**	**Progress Measures**	**Progress Points Earned**	**Progress Measure Description**
2020 Target	10	90.0 - 100%	**Exceeding**	7.5	25% of CCR*5-6 Gap increase
On Track	7.5	80.0 - 89.9%	**On Track**	4	15% of CCR*5-6 Gap increase
Approaching	6	70.0 - 79.9%	**Approaching**	2	5% of CCR*5-6 Gap increase
Floor	0	0.0 - 69.9%	**Floor**	0	<5% of CCR*5-6 Gap increase
CCR*5-6 Total: Status + Progress A maximum of ten (10) points may be applied to the LEA or school level score. *This is a lagged indicator representing graduates from the preceding year(s). **Status targets change annually. See the Top 10 by 20 Projected Status Targets in the Appendix.**					

STANDARD 3 HIGH SCHOOL READINESS (HSR)					
STATUS			**PROGRESS**		
Status Measures	**Status Points Earned**	**Percent of high school readiness**	**Progress Measures**	**Progress Points Earned**	**Progress Measure Description**
2020 Target	10	25.0 - 100	**Exceeding**	7.5	25% of HSR Gap increase
On Track	7.5	19.0 - 24.9	**On Track**	4	15% of HSR Gap increase
Approaching	6	12.0 - 18.9	**Approaching**	2	5% of HSR Gap increase
Floor	0	0.0 - 11.9	**Floor**	0	<5% of HSR Gap increase
HSR Total: Status + Progress A maximum of ten (10) points may be applied to the LEA or school level score. **Status targets change annually. See the Top 10 by 20 Projected Status Targets in the Appendix.**					

STANDARD 4 ATTENDANCE

STATUS			PROGRESS		
Status Measures	**Status Points Earned**	**Percent of students attending 90% of time**	**Progress Measures**	**Progress Points Earned**	**Progress Measure Description**
2020 Target	10	90.0 - 100	**Exceeding**	7.5	3% increase
On Track	7.5	85.0 - 89.9	**On Track**	4	2% increase
Approaching	6	80.0 - 84.9	**Approaching**	2	1% increase
Floor	0	0.0 - 79.9	**Floor**	0	<1% increase

Attendance Total: Status + Progress
A maximum of ten (10) points may be applied to the LEA or school level score.
Status targets change annually. See the Top 10 by 20 Projected Status Targets in the Appendix.

STANDARD 5 GRADUATION RATE

STATUS			PROGRESS		
Status Measures	**Status Points Earned**	**Four-, Five-, Six-, or Seven-Year rate**	**Progress Measures**	**Progress Points Earned**	**Progress Measure Description**
2020 Target	30	92.0 - 100	**Exceeding**	22.5	If Status = Floor, 9% increase needed
					If Status = Approaching, 6% increase needed
					If Status = On Track or 2020 Target, 3% increase needed
On Track	22.5	82.0 - 91.9	**On Track**	12	If Status = Floor, 6% increase needed
					If Status = Approaching, 4% increase needed
					If Status = On Track or 2020 Target, 2% increase needed
Approaching	18	72.0 - 81.9	**Approaching**	6	If Status = Floor, 3% increase needed
					If Status = Approaching, 2% increase needed
					If Status = On Track or 2020 Target, 1% increase needed
Floor	0	0.0 - 71.9	**Floor**	0	< stated increase

Graduation Rate*1 Total: Status + Progress
A maximum of thirty (30) points may be applied to the LEA or school level score.
Four-year, five-year, six-year, and seven-year rates are calculated and the better of the four is applied to the APR.
Status targets change annually. See the Top 10 by 20 Projected Status Targets in the Appendix.

Appendix A
Top 10 by 20 Projected Status Targets
Standards 1-5

Status target will be revisited in 2015

Standard 1: Academic Achievement Status Targets to 2020

Projected Status Targets in English Language Arts

Year	Floor	Approaching	On Track	2020 Target
2012	**100.0 - 299.9**	**300.0 - 362.2**	**362.3-385.6**	**385.7 - 500**
2013	**100.0 - 299.9**	**300.0 - 363.8**	**363.9 - 385.6**	**385.7 - 500**
2014	**100.0 - 299.9**	**300.0 - 365.4**	**365.5 - 385.6**	**385.7 - 500**
2015	100.0 - 299.9	300.0 - 367	367.1 - 385.6	385.7 - 500
2016	100.0 - 299.9	300.0 - 368.6	368.7 - 385.6	385.7 - 500
2017	100.0 - 299.9	300.0 - 370.1	370.2 - 385.6	385.7 - 500
2018	100.0 - 299.9	300.0 - 371.7	371.8 - 385.6	385.7 - 500
2019	100.0 - 299.9	300.0 - 373.3	373.4 - 385.6	385.7 - 500
2020	100.0 - 299.9	300.0 - 374.9	375.0 - 385.6	385.7 - 500

Projected Status Targets in Mathematics

Year	Floor	Approaching	On Track	2020 Target
2012	**100.0 - 299.9**	**300.0 - 352.7**	**352.8 - 392.7**	**392.8 - 500**
2013	**100.0 - 299.9**	**300.0 - 355.5**	**355.6 - 392.7**	**392.8 - 500**
2014	**100.0 - 299.9**	**300.0 - 358.3**	**358.4 - 392.7**	**392.8 - 500**
2015	100.0 - 299.9	300.0 - 361	361.1 - 392.7	392.8 - 500
2016	100.0 - 299.9	300.0 - 363.8	363.9 - 392.7	392.8 - 500
2017	100.0 - 299.9	300.0 - 366.6	366.7 - 392.7	392.8 - 500
2018	100.0 - 299.9	300.0 - 369.4	369.5 - 392.7	392.8 - 500
2019	100.0 - 299.9	300.0 - 372.1	372.2 - 392.7	392.8 - 500
2020	100.0 - 299.9	300.0 - 374.9	375.0 - 392.7	392.8 - 500

Projected Status Targets in Science

Year	Floor	Approaching	On Track	2020 Target
2012	**100.0 - 299.9**	**300.0 - 343.9**	**344.0 - 352.7**	**352.8 - 500**
2013	**100.0 - 299.9**	**300.0 - 344.6**	**344.7 - 352.7**	**352.8 - 500**
2014	**100.0 - 299.9**	**300.0 - 345.4**	**345.5 - 352.7**	**352.8 - 500**
2015	100.0 - 299.9	300.0 - 346.1	346.2 - 352.7	352.8 - 500
2016	100.0 - 299.9	300.0 - 346.9	347.0 - 352.7	352.8 - 500
2017	100.0 - 299.9	300.0 - 347.6	347.7 - 352.7	352.8 - 500
2018	100.0 - 299.9	300.0 - 348.4	348.5 - 352.7	352.8 - 500
2019	100.0 - 299.9	300.0 - 349.1	349.2 - 352.7	352.8 - 500
2020	100.0 - 299.9	300.0 - 349.9	350.0 - 352.7	352.8 - 500

Projected Status Targets in Social Studies

Year	Floor	Approaching	On Track	2020 Target
2012	**100.0 - 299.9**	**300.0 - 346.1**	**346.2 - 374.9**	**375.0 - 500**
2013	**100.0 - 299.9**	**300.0 - 346.5**	**346.6 - 374.9**	**375.0 - 500**
2014	**100.0 - 299.9**	**300.0 – 347.0**	**347.1 - 374.9**	**375.0 - 500**
2015	100.0 - 299.9	300.0 - 347.5	347.6 - 374.9	375.0 - 500
2016	100.0 - 299.9	300.0 - 348	348.1 - 374.9	375.0 - 500
2017	100.0 - 299.9	300.0 - 348.5	348.6 - 374.9	375.0 - 500
2018	100.0 - 299.9	300.0 - 348.9	349.0 - 374.9	375.0 - 500
2019	100.0 - 299.9	300.0 - 349.4	349.5 - 374.9	375.0 - 500
2020	100.0 - 299.9	300.0 - 349.9	350.0 - 374.9	375.0 - 500

Standard 2: Subgroup Achievement Status Targets to 2020

Projected Status Targets in English Language Arts

Year	Floor	Approaching	On Track	2020 Target
2012	**100.0 - 299.9**	**300.0 - 335.6**	**335.7 - 385.6**	**385.7 - 500**
2013	**100.0 - 299.9**	**300.0 - 338.8**	**338.9 - 385.6**	**385.7 - 500**
2014	**100.0 - 299.9**	**300.0 - 341.9**	**342.0 - 385.6**	**385.7 - 500**
2015	100.0 - 299.9	300.0 - 345.1	345.2 - 385.6	385.7 - 500
2016	100.0 - 299.9	300.0 - 348.2	348.3 - 385.6	385.7 - 500
2017	100.0 - 299.9	300.0 - 351.4	351.5 - 385.6	385.7 - 500
2018	100.0 - 299.9	300.0 - 354.5	354.6 - 385.6	385.7 - 500
2019	100.0 - 299.9	300.0 - 357.7	357.8 - 385.6	385.7 - 500
2020	100.0 - 299.9	300.0 - 360.8	360.9 - 385.6	385.7 - 500

Projected Status Targets in Mathematics

Year	Floor	Approaching	On Track	2020 Target
2012	**100.0 - 299.9**	**300.0 - 326.8**	**326.9 - 392.7**	**392.8 - 500**
2013	**100.0 - 299.9**	**300.0 - 331.1**	**331.2 - 392.7**	**392.8 - 500**
2014	**100.0 - 299.9**	**300.0 - 335.4**	**335.5 - 392.7**	**392.8 - 500**
2015	100.0 - 299.9	300.0 - 339.7	339.8 - 392.7	392.8 - 500
2016	100.0 - 299.9	300.0 - 344	344.1 - 392.7	392.8 - 500
2017	100.0 - 299.9	300.0 - 348.3	348.4 - 392.7	392.8 - 500
2018	100.0 - 299.9	300.0 - 352.6	352.7 - 392.7	392.8 - 500
2019	100.0 - 299.9	300.0 - 356.9	357.0 – 392.7	392.8 - 500
2020	100.0 - 299.9	300.0 - 361.2	361.3 – 392.7	392.8 - 500

Projected Status Targets Science

Year	Floor	Approaching	On Track	2020 Target
2012	**100.0 - 299.9**	**300.0 - 308.4**	**308.5 - 352.7**	**352.8 - 500**
2013	**100.0 - 299.9**	**300.0 - 311.3**	**311.4 - 352.7**	**352.8 - 500**
2014	**100.0 - 299.9**	**300.0 - 314.1**	**314.2 - 352.7**	**352.8 - 500**
2015	100.0 - 299.9	300.0 - 316.9	317.0 - 352.7	352.8 - 500
2016	100.0 - 299.9	300.0 - 319.8	319.9 - 352.7	352.8 - 500
2017	100.0 - 299.9	300.0 - 322.6	322.7 - 352.7	352.8 - 500
2018	100.0 - 299.9	300.0 - 325.5	325.6 - 352.7	352.8 - 500
2019	100.0 - 299.9	300.0 - 328.3	328.4 - 352.7	352.8 - 500
2020	100.0 - 299.9	300.0 - 331.1	331.2 - 352.7	352.8 - 500

Projected Status Targets for Social Studies (2016 Approaching and On Track the same)

Year	Floor	Approaching	On Track	2020 Target
2012	**100.0 - 299.9**	**300.0 - 308.3**	**308.4 - 374.9**	**375.0 - 500**
2013	**100.0 - 299.9**	**300.0 - 311.0**	**311.1 - 374.9**	**375.0 - 500**
2014	**100.0 - 299.9**	**300.0 - 313.7**	**313.8 - 374.9**	**375.0 - 500**
2015	100.0 - 299.9	300.0 - 316.4	316.5 - 374.9	375.0 - 500
2016	100.0 - 299.9	300.0 - 319.1	319.2 - 374.9	375.0 - 500
2017	100.0 - 299.9	300.0 - 321.8	321.9 - 374.9	375.0 - 500
2018	100.0 - 299.9	300.0 - 324.5	324.6 - 374.9	375.0 - 500
2019	100.0 - 299.9	300.0 - 327.2	327.3 - 374.9	375.0 - 500
2020	100.0 - 299.9	300.0 - 329.9	330.0 - 374.9	375.0 - 500

Standard 3: College and Career Readiness Status Targets to 2020

Projected Status Targets for College and Career Readiness*1-3

Year	Floor	Approaching	On Track	2020 Target
2012	**0.0 - 39.9%**	**40.0 - 59.8%**	**59.9 - 71.4%**	**71.5 - 100%**
2013	**0.0 - 39.9%**	**40.0 - 61.3%**	**61.4 - 71.4%**	**71.5 - 100%**
2014	**0.0 - 39.9%**	**40.0 - 62.7%**	**62.8 - 71.4%**	**71.5 - 100%**
2015	0.0 - 39.9%	40.0 - 64.2%	64.3 - 71.4%	71.5 - 100%
2016	0.0 - 39.9%	40.0 - 65.6%	65.7 - 71.4%	71.5 - 100%
2017	0.0 - 39.9%	40.0 - 67.1%	67.2 - 71.4%	71.5 - 100%
2018	0.0 - 39.9%	40.0 - 68.5%	68.6 - 71.4%	71.5 - 100%
2019	0.0 - 39.9%	40.0 - 70.0%	70.1 - 71.4%	71.5 - 100%
2020	0.0 - 39.9%	40.0 – 70.0%	70.1 - 71.4%	71.5 - 100%

Projected Status Targets for College and Career Readiness*4

Year	Floor	Approaching	On Track	2020 Target
2012	**0.0 - 4.9%**	**5.0 - 37.2%**	**37.3 - 47.7%**	**47.8 - 100%**
2013	**0.0 - 4.9%**	**5.0 - 38.5%**	**38.6 - 47.7%**	**47.8 - 100%**
2014	**0.0 - 4.9%**	**5.0 - 39.8%**	**39.9 - 47.7%**	**47.8 - 100%**
2015	0.0 - 4.9%	5.0 - 41.1%	41.2 - 47.7%	47.8 - 100%
2016	0.0 - 4.9%	5.0 - 42.5%	42.6 - 47.7%	47.8 - 100%
2017	0.0 - 4.9%	5.0 - 43.8%	43.9 - 47.7%	47.8 - 100%
2018	0.0 - 4.9%	5.0 - 45.1%	45.2 - 47.7%	47.8 - 100%
2019	0.0 - 4.9%	5.0 - 46.4%	46.5 - 47.7%	47.8 - 100%
2020	0.0 - 4.9%	5.0 – 46.4%	46.5 - 47.7%	47.8 - 100%

Projected Status Targets for College and Career Readiness*5-6

Year	Floor	Approaching	On Track	2020 Target
2012	**0.0 - 69.9%**	**70.0 - 79.9%**	**80.0 - 89.9%**	**90.0 - 100%**
2013	**0.0 - 69.9%**	**70.0 - 79.9%**	**80.0 - 89.9%**	**90.0 - 100%**
2014	**0.0 - 69.9%**	**70.0 - 79.9%**	**80.0 - 89.9%**	**90.0 - 100%**
2015	0.0 - 69.9%	70.0 - 79.9%	80.0 - 89.9%	90.0 - 100%
2016	0.0 - 69.9%	70.0 - 79.9%	80.0 - 89.9%	90.0 - 100%
2017	0.0 - 69.9%	70.0 - 79.9%	80.0 - 89.9%	90.0 - 100%
2018	0.0 - 69.9%	70.0 - 79.9%	80.0 - 89.9%	90.0 - 100%
2019	0.0 - 69.9%	70.0 - 79.9%	80.0 - 89.9%	90.0 - 100%
2020	0.0 - 69.9%	70.0 - 79.9%	80.0 - 89.9%	90.0 - 100%

Projected Status Targets for High School Readiness

Year	Floor	Approaching	On Track	2020 Target
2012	**0.0 – 11.9%**	**12.0 – 18.9%**	**19.0 - 24.9%**	**25.0 - 100%**
2013	**0.0 – 11.9%**	**12.0 – 18.9%**	**19.0 - 24.9%**	**25.0 - 100%**
2014	**0.0 – 11.9%**	**12.0 – 18.9%**	**19.0 - 24.9%**	**25.0 - 100%**
2015	0.0 – 11.9%	12.0 – 18.9%	19.0 - 24.9%	25.0 - 100%
2016	0.0 – 11.9%	12.0 – 18.9%	19.0 - 24.9%	25.0 - 100%
2017	0.0 – 11.9%	12.0 – 18.9%	19.0 - 24.9%	25.0 - 100%
2018	0.0 – 11.9%	12.0 – 18.9%	19.0 - 24.9%	25.0 - 100%
2019	0.0 – 11.9%	12.0 – 18.9%	19.0 - 24.9%	25.0 - 100%
2020	0.0 – 11.9%	12.0 – 18.9%	19.0 - 24.9%	25.0 - 100%

Standard 4: Attendance Status Targets to 2020

Year	Floor	Approaching	On Track	2020 Target
2012	**0 – 79.9%**	**80.0 – 84.9%**	**85.0 – 89.9%**	**90.0 – 100%**
2013	**0 – 79.9%**	**80.0 – 84.9%**	**85.0 – 89.9%**	**90.0 – 100%**
2014	**0 – 79.9%**	**80.0 – 84.9%**	**85.0 – 89.9%**	**90.0 – 100%**
2015	0 – 79.9%	80.0 – 84.9%	85.0 – 89.9%	90.0 – 100%
2016	0 – 79.9%	80.0 – 84.9%	85.0 – 89.9%	90.0 – 100%
2017	0 – 79.9%	80.0 – 84.9%	85.0 – 89.9%	90.0 – 100%
2018	0 – 79.9%	80.0 – 84.9%	85.0 – 89.9%	90.0 – 100%
2019	0 – 79.9%	80.0 – 84.9%	85.0 – 89.9%	90.0 – 100%
2020	0 – 79.9%	80.0 – 84.9%	85.0 – 89.9%	90.0 – 100%

Standard 5: Graduation Status Targets to 2020

Year	Floor	Approaching	On Track	2020 Target
2012	**0 – 71.9%**	**72.0 – 81.9%**	**82.0 – 91.9%**	**92.0 – 100%**
2013	**0 – 71.9%**	**72.0 – 81.9%**	**82.0 – 91.9%**	**92.0 – 100%**
2014	**0 – 71.9%**	**72.0 – 81.9%**	**82.0 – 91.9%**	**92.0 – 100%**
2015	0 – 71.9%	72.0 – 81.9%	82.0 – 91.9%	92.0 – 100%
2016	0 – 71.9%	72.0 – 81.9%	82.0 – 91.9%	92.0 – 100%
2017	0 – 71.9%	72.0 – 81.9%	82.0 – 91.9%	92.0 – 100%
2018	0 – 71.9%	72.0 – 81.9%	82.0 – 91.9%	92.0 – 100%
2019	0 – 71.9%	72.0 – 81.9%	82.0 – 91.9%	92.0 – 100%
2020	0 – 71.9%	72.0 – 81.9%	82.0 – 91.9%	92.0 – 100%

Appendix B
Assessment Schedule
Standard 1 & 2: Academic and Subgroup Achievement
http://dese.mo.gov/sites/default/files/am/documents/QS-14-002.pdf

All students in grades 3-8 in Missouri will take the grade level assessment. English Language Arts and Mathematics are administered in all grades. Science is administered in grades 5 and 8. A few groups of students may be exempt from certain portions or all of the assessment.

Classes of 2013 2014 2015 (4)	English II
	Algebra I
	Biology
	Government
Class of 2016 (8)	**English I**
	English II
	English End of High School (EOHS)
	Algebra I
	Mathematics End of High School (EOHS)
	Biology
	Government
	American History
Class of 2017 (9)	English I
	English II
	English EOHS
	Algebra I
	Mathematics EOHS
	Additional Mathematics
	Biology
	Government
	American History
Class of 2018 (11)	English I
	English II
	English EOHS
	Algebra I
	Mathematics EOHS
	Additional Mathematics
	Biology
	Additional Science
	Additional Science
	Government
	American History

*Newly required assessments are in **bold.**

Cohort Grid

	SY 2012-2013	SY 2013-2014	SY 2014-2015	SY 2015-2016	SY 2016-2017	SY 2017-2018	SY 2018-2019
GR 12	2013	2014	2015	2016	2017	2018	2019
GR 11	2014	2015	2016	2017	2018	2019	2020
GR 10	2015	2016	2017	2018	2019	2020	2021
GR 09	2016	2017	2018	2019	2020	2021	2022

Appendix C
Assessment Scores Matrix
Standard 3: College and Career Readiness*1-3

Student Weight	ACT®	SAT®	COMPASS®	ASVAB
	Composite Score	*Critical Reading + SAT® Math*	*Algebra + Reading (both required)*	*Armed Forces Qualification Test Score*
0	No record of participation	No record of participation	No record of participation	No record of participation
0.25	< 18	< 870	Algebra < 66 and Reading < 81	< 30
0.75	18 – 21	870 - 980	Algebra ≥ 66 or Reading ≥ 81	30 – 62
1	22 - 25	990 - 1180	Algebra ≥ 66 and Reading ≥ 81	63 – 87
1.25	26 - 36	1190 - 1600	n/a	88 – 99

Appendix D
Standard 3: College and Career Readiness*4 Scores Matrix

Student Weight	AP	IB	PLTW	IRC	Dual Credit or Dual Enrollment
0	No record of participation or earn <B	No record of participation or earn <B	No record of participation or score<6	No record of participation or Score < proficient	No record of participation or earn <B
1	Earn "B" or greater in department approved AP Course	Earn "B" or greater in department approved IB Course	Exam score of ≥ 6 on approved PLTW	Earn an IRC	Earn "B" or greater in department approved dual credit course or dual enrollment course
1.25	Exam score of ≥ 3	Exam score of ≥ 4	n/a	n/a	n/a

Note: Calculation of earning a "B", remove any '+' or '-' associated with the grade, and use the scale below. The divisor is contingent on the course time units (i.e. semester use a divisor of 2, quarters use a divisor of 4, etc.)

Student Name:	MOSIS ID:	Course No.	Course Name:	Course Time Unit:	Grade Earned:
Smith, John	1111111111	115795	AP Statistics	Semester 1	C+
Smith, John	1111111111	115795	AP Statistics	Semester 2	A-
Avg. grade:		2 + 4 = 6	6 ÷ 2 = 3	which equals a 'B'	

Student Name:	MOSIS ID:	Course No.	Course Name:	Course Time Unit:	Grade Earned:
Smith, John	1111111111	134221	Physiology	Semester 1	C-
Smith, John	1111111111	134221	Physiology	Semester 2	B+
Avg. grade:		2 + 3 = 5	5 ÷ 2 = 2.5	which equals a 'C'	

Scale:		
A	=	4.0
B	=	3.0
C	=	2.0
D	=	1.0
F	=	0.0

Appendix E
Standard 3: College and Career Readiness*4 Dual Credit

Missouri institutions complying with the Coordinating Board for Higher Education's Dual Credit Policy and Principles of Good Practice for Dual Credit Courses

2013							
Public Institutions Reporting Dual Credit Programs and Considered in Compliance	**2012**	**2013**	**2014**	**Independent Institutions Reporting Dual Credit Programs and Considered in Compliance**	**2012**	**2013**	**2014**
Crowder College	√	√	√	Central Methodist University	√	√	√
East Central College	√	√	√	Drury University	√	√	√
Jefferson College	√	√	√	Hannibal-LaGrange University	√	√	√
Lincoln University	√	√	√	Lindenwood University	√	√	√
State Technical College (formally Linn State Technical College)	√	√	√	Maryville University of St. Louis	√	√	√
Metropolitan Community Colleges	√	√	√	Missouri Baptist University	√	√	√
Mineral Area College	√	√	√	Missouri Valley College	√	√	√
Missouri Southern State University	√	√	√	Park University		√	√
Missouri State University - Springfield	√	√	√	Rockhurst University	√	√	√
Missouri Western State University	√	√	√	St. Louis University	√	√	√
Moberly Area Community College	√	√	√	Southwest Baptist University	√	√	√
North Central Missouri College	√	√	√	Stephens College	√	√	√
Northwest Missouri State University	√	√	√	Webster University			√
Ozarks Technical Community College	√	√	√	Wentworth Military Academy & Jr. College	√	√	√
St. Louis Community Colleges	√	√	√	Westminster College		√	√
Southeast Missouri State University	√	√	√	William Jewel College	√	√	√
Southwest Missouri State University-West Plains	√	√	√				
State Fair Community College	√	√	√				
Three Rivers Community College	√	√	√				
Truman State University		√	√				
University of Central Missouri	√	√	√				
University of Missouri - Kansas City	√	√	√				
University of Missouri - St. Louis	√	√	√				

√= Indicates year the Missouri institutions were used for MSIP 5 accountability

*Williams Woods University – Offers Dual Enrollment and not Dual Credit

Appendix F
Standard 3: College and Career Readiness*4
Technical Skills Attainment (TSA)/Industry Recognized Credential (IRC)

For a complete listing of approved IRCs **http://dese.mo.gov/college-career-readiness/career-education/technical-skills-attainment**

Comparison Chart

Perkins TSA	MSIP5 IRC
Federal Reporting Requirement for Perkins recipients	Optional State reporting for Districts
Student must be a concentrator that completes an approved CTE program	Student does not have to be a concentrator or complete a CTE program
Reported in MOSIS	Reported in MOSIS
Does not require a certificate from industry after successfully completing the assessment	Requires a certificate from industry after successfully completing the assessment
100% of all students who are concentrators and complete an approved CTE program are required to take a TSA assessment	No requirement on the percentage of student who receive an IRC
Must be a career education student in an approved CTE program	For all students
For all secondary and postsecondary students enrolled in an approved CTE program and a Perkins recipient	Only secondary students

Appendix G
Career Education Placement/Follow-Up Guidelines
Standard 3: College and Career Readiness*5-6

Follow-up data is reported on the previous year's graduates based on the status of the graduates 180 days following their exit from career education training. **Each graduate should be reported in only one career education program area.** Districts should collect follow-up information on any student who graduated high school and received credit in at least one state-approved career education course (excluding Exploring Agriculture, Industrial Technology, and Exploratory Family and Consumer Sciences (FCS) and the Family Focused courses from program code 06-04) any Family and Consumer Sciences course during grades 9-12. Districts should collect follow-up data on any student taking a credit in a state approved career education Family and consumer Sciences program (program code 07-04).If students completed state-approved career courses at the comprehensive high school and the area career center, their follow-up data should **not** be reported for both locations. The area career center is responsible for providing each sending school with the appropriate follow-up data for students that attend the area career center. The sending school will be responsible for entering that information into MOSIS.

If the graduate is employed and continuing their education, use the following guidelines:

Employed Related	A graduate attending school (full- or part-time) **and** employed (full- or part-time) in a field for which they were trained, should be reported as "employed related" (Emp Rel).
Employed Related	A graduate attending school (full- or part-time) in a field for which they were **not** trained, but employed (full or part-time) in a field for which they were trained should be reported as "employed related" (Emp Rel).
Continuing Education Related	A graduate attending school (full- or part-time) in a field for which they were trained, but not employed in a field for which they were trained should be reported as "continuing education related" (Ced Rel).

For additional guidance on employed related, please see http://www.missouriconnections.org.

To access the list of related occupations for each career cluster:

1) Select Career Exploration
2) Select 16 Career Clusters
3) Select Career Cluster
4) Selection Pathways

Appendix H
Types of Appeals

There are different types of appeals:

- Score/LND (Assessment Appeal Form and cost)
- Medical Waiver (district letterhead)
- CCR data (CCR Appeal Form)
- A+ retesting (district letterhead)
- MAP-A transfers (district letterhead)
- Miscellaneous Administrative Anomalies (district letterhead)

A+ Appeals:
Students retesting to achieve proficient/advanced on the Algebra I assessment for A+ purposes, may be removed from accountability by submitting an appeal on district letterhead. Letters must contain the information included below in the section titled District Letterhead Requirements.

CCR Data Appeals:
Once the Annual Performance Report is released, districts have approximately one month to correct/appeal the data received by the various testing companies (ACT®, SAT®, ASVAB, AP, IB, etc.). For additional information, or to obtain the form, go to http://dese.mo.gov/quality-schools/accountability-data/appeals-procedure

MAP-A Transfer Appeals:
Students that transfer out of a district during the portfolio collection must submit a letter, on district letterhead, with the date the student transferred. These instructions are also included in the MAP-A Administration Manual. Letters must contain the information included below in the section titled District Letterhead Requirements.

Medical Waiver Appeals:
An appeal may be submitted on district letterhead for students experiencing an acute (short term) illness that prevents the student from receiving instructional services. Letters must contain the information included below in the section titled District Letterhead Requirements.

Score/Level Not Determined (LND) Appeals:
There is an appeal window during which LEAs may submit appeal requests. There is a cost for appeals that are submitted to the testing company's for rescoring/LND. For additional information, or to obtain the form, go to http://www.dese.mo.gov/quality-schools/accountability-data/appeals-procedure.

District Letterhead Requirements:

The following information must be included in your written request on district letterhead:

- Student Name
- MOSIS ID
- Date of birth
- Grade
- County District Code
- School Code
- Content Area
- Brief explanation of reason for appeal
- Signed by Superintendent

Appendix I

Missouri Growth Model Technical Documentation

Standard 1 & 2: Academic and Subgroup Achievement

1: INTRODUCTION

This document describes the estimation procedure employed by the Missouri Growth Model to generate growth measures for Local Education Agencies (LEAs) and schools. These measures are reported on the MSIP 5 APR and reflect systematic differences in academic achievement gains compared to baseline predictions.

It is important to note that these measures are just one gauge of effectiveness. They are not designed to be a measure of progress toward the state's 2020 performance targets, for example. Instead, they indicate how achievement gains among similarly circumstanced students in similarly circumstanced LEAs or schools differ as a function of the *particular* LEAs or schools where students were enrolled when they took the MAP exams. In this way, estimates generated by the Missouri Growth Model are relative.

2: DATA

The Missouri Growth Model is estimated using individual student test results from the Missouri Assessment Program (MAP) exams given annually to public school students in the state of Missouri. Currently, the Missouri Growth Model uses data from the mathematics and English language arts exams administered to all students in grades three (3) through eight (8).

At the current time, a three-year rolling panel is used as the analytic data sample. For example, following the 2012 academic year, exam scores from 2012, 2011, and 2010 were included as outcome variables in the model estimation. The use of multiple years of data improves the stability of the growth estimates. Of course, the tradeoff in including multiple years of data in the model estimation is that real improvements in school and LEA quality take longer to appear in the effect estimates. The three-year panel strikes a balance between the goal of improving the stability of effect estimates and the desire to help LEAs and schools demonstrate improvements more quickly.

2.1 Standardizing MAP Scale Scores

Growth measures in MSIP 5 are designed to provide estimates of schooling effectiveness for units (LEAs or schools) as a whole. It is therefore important that the measures have a meaningful interpretation at the unit-level. Moreover, the generalized predictive relationship between a student's exam score in a given year and his or her prior-year exam score cannot be estimated appropriately in cases when apparent gains may be confounded by differences in scaling from one

grade to the next. Due to these considerations, MAP scale scores are standardized by year and grade prior to being submitted to the model.

Standardization is accomplished by converting MAP scale scores to z-scores. Z-score standardization is commonly performed on data that exist on different scales. A z-score of zero (0) represents the mean for a given subject, year, and grade. The following example explains how a z-score is calculated:

Table 1: Calculation of z-scores

Step	Explanation
1. Find the mean scale score for the given assessment. Each combination of grade level, content area, and school year is treated as a different assessment in this context.	The mean ($\bar{x}$) is the sum of the scale scores for all students with a valid score, divided by the number of students with a valid score (N).
2. Find the standard deviation of the scale score for the same assessment.	The formula for standard deviation is $s = \sqrt{\frac{1}{N-1}\sum_{i=1}^{N}(x_i - \bar{x})^2}$, where x_i is the scale score for a given student.
3. Take the student's scale score and subtract the mean. Then divide by the standard deviation. The result is the z-score.	If the mean is 640; the standard deviation is 38; and the student's actual scale score is 700; then: z = (700-640) / 38 z = 60 / 38 z = 1.5789

2.2 Method of Pairing Scores

The model uses test score pairs for estimation. A score pair is formed by matching an exam score for a student tested in year *t* (the outcome score) to a prior exam score for the same student in the same subject and previous grade from year *t-1* (a predictor score). As a result, scores from fourth grade students are the first scores that can appear as outcome scores in the model. Scores from

students who take the exam twice at the same grade level, due to being retained in grade, do not generate a valid score pair for the year the retest occurred.

The example below shows how an individual student's exam scores are arrayed as pairs:

Table 2: Arrangement of Data as Score Pairs

Year *t*	Grade Level in Year *t*	Standardized MAP Scale Score for Year *t (Outcome Scores)*	Grade Level in Year *t-1*	Standardized MAP Scale Score for Year *t-1 (Predictor Scores)*
2012	8	1.30	7	1.10
2011	7	1.10	6	0.80
2010	6	0.80	5	0.60
2009	5	0.60		

2.3 Treatment of Missing Data

A prior-year same-subject exam score (predictor score) is required for an outcome score to be included in model estimation. Specifically, if a student is missing the mathematics MAP score in year *t-1* when the outcome score in the model is the mathematics MAP score in year *t*, then that student's score is dropped from the analysis. The same rules are used to construct the English language arts estimation sample, i.e., both the year *t* and year *t-1* English language arts scores must be available to include the student's score pair in the analysis. This method was chosen because the absence of a lagged same-subject score can be seen as conceptually problematic in a gains model.

The model also uses prior year exam scores from the "other subject" to predict current year scores. For example, when a mathematics MAP score is the outcome score, a prior year English language arts score for the same student from the previous grade also is used as a predictor score. In cases where the lagged off-subject score is unavailable, the lagged off-subject score is set to zero (0), the standardized mean. This maximizes the amount of data included in the estimation and accounts for students with poor attendance during the week of examinations (a group that is likely to be non-random).

This data strategy sets a student's missing, lagged off-subject score equal to the statewide exam average. However, students with missing exam scores may systematically over or underperform relative to students that truly scored at the statewide average on the previous year off-subject exam (and for whom these data are available). To control for this possibility, an indicator variable signifying the presence of a missing score is also included in the model. Moreover, the model includes an interaction term to give more weight to the same-subject lagged MAP score for the observations where the lagged off-subject MAP score is missing, as it is now the sole source of empirical information about prior test performance. The full model estimation strategy is discussed in the next section.

3: MODEL SPECIFICATION

3.1 First-Stage Predictive Model

The estimation procedure used to measure growth consists of two steps. In the first step, individual students' MAP scores, standardized by year, subject, and grade, are regressed on student and unit-level characteristics. The following equation is estimated using Ordinary Least Squares (OLS).

$$Y_{ijt}(x) = \beta_0 + \beta_1 Y_{ij(t-1)}(m) + \beta_2 Y_{ij(t-1)}(ela) + \beta_3 Missing + \beta_4 Missing \times Y_{ij(t-1)}(x) + \beta_5 M_{ijt} + \beta_6 S_{ijt} + \beta_7 Grade + \beta_8 Year + e_{ijt} \quad (1)$$

Where

$Y_{ijt}(x)$ = A test score in subject x (m=math or ela=English language arts) for student i at unit j in year t.

The unit component is flexibly defined and can be applied at the LEA level, school level, etc. This flexibility is one of the benefits of the model. Models are currently being estimated at the LEA and school levels only.

$Missing$ = A binary indicator variable where the indicator is set to one if the lagged off-subject MAP score is missing and is set to zero (0) otherwise.

$Missing \times Y_{ij(t-1)}(x)$ = An interaction term between the *Missing* indicator variable and the lagged same-subject MAP score.

M_{ijt} = A binary indicator variable set to one if the student was in the building where tested for less than the full academic school year and zero (0) otherwise.

S_{ijt} = A vector of variables controlling for unit-specific characteristics.

The unit characteristics are also calculated from the MAP score records and measure average lagged mathematics and English language arts MAP scores, the percentage of students with missing lagged off-subject MAP scores (e.g., the percent missing lagged English language arts scores in the mathematics model), and the percentage of tested students that were in the building in which they were tested for less than a full school year. Note that the average lagged exam scores are based on the prior scores of students who took the MAP test at the unit in year *t*, and not on the year *t-1* scores of students that were actually in the unit at that time (although there may be substantial overlap between the two sets).

Grade = A set of binary indicator variables where the indicator is set to one (1) if the student is in the relevant grade when the exam was taken, while all others are set to zero (0).

Year = A set of binary indicator variables where the indicator for the year when the test was taken is set to one (1), while all others are set to zero (0).

These two (2) sets of indicator variables account for differences in the testing data that are observed across grades and over time and that are correlated to current-year MAP scores.

$e_{ijt} =$ The OLS error term from the regression.

The model presented in equation (1) is then estimated using statewide exam score data. The OLS parameter estimates (regression coefficients) for this first-stage regression are presented in the Parameter Estimates from First-Stage OLS chart (found at the end of this technical report). These estimates define the independent linear relationship between the predictor variables presented above and the outcome exam scores. Given these relationships, the model can then be used to predict each student's outcome scores given the values of his or her predictor variables. For example, consider a student with the data record for one year presented in Table 3.

Table 3: Student Exam Score Prediction Sample Data

Variable	**Value**
Current-Year Math Score (z-score units)	0.226
Prior-Year Math Score (z-score units)	0.127
Prior-Year English Language Arts Score (z-score units)	0.675
Missing Off-Subject (ELA) Prior-Year Score Indicator	0
Mobility Indicator	1
LEA Average Lagged Math Score	0.213
LEA Average Lagged English Language Arts Score	0.011
LEA Percent Mobile	5.12
LEA Percent of Students with Missing Off-Subject Scores	3.86
Grade 4 Indicator	0
Grade 5 Indicator	1
Grade 6 Indicator	0
Grade 7 Indicator	0
2010 School Year Indicator	0
2011 School Year Indicator	0

This record describes a grade-5 student who took the MAP mathematics exam in 2012 (the grade 5 indicator is set to one (1), while the 2010 and 2011 school year indicators are set to zero (0). Note that this student also could have a data record included in the model estimation where the 4th grade MAP score is the outcome score and the 3rd grade scores are predictors). Moreover, the student was not present in the school in which the exam was taken for the entire year (the mobility indicator is set to one) but did take the MAP exam in an LEA with above average lagged exam scores and a low overall percentage of mobile students. The student also has lagged exam scores available in both subjects (note that the missing off-subject prior-year exam indicator is set to zero). Given these values and the coefficients from the Parameter Estimates from First-Stage OLS chart (found at the end of this technical report) the following calculation is used to determine the student's predicted 2012 exam score:

$$\ddot{Y}_{ijt}(m) = \ddot{\beta}_0 + \ddot{\beta}_1 Y_{ij(t-1)}(m) + \ddot{\beta}_2 Y_{ij(t-1)}(ela) + \ddot{\beta}_3 Missing + \ddot{\beta}_4 Missing \times Y_{ij(t-1)}(x) + \ddot{\beta}_5 M_{ijt} + \ddot{\beta}_6 S_{ijt} + \ddot{\beta}_7 Grade + \ddot{\beta}_8 Year \quad (2)$$

$$= 0.014 + (0.625)0.127 + (0.220)0.675 + (-0.077)0 + (0.043)(0 \times 0.127) + (-0.114)1 + (0.222)0.213 + (-0.068)0.011 + (0.004)5.12 + (-0.002)3.86 + (0.003)0 + (0.002)1 + (0.001)0 + (0.000)0 + (-0.000)0 + (0.001)0$$

$$= 0.189.$$

Hence, this student would be predicted to score 0.189 standard deviations above the mean on the 2012 MAP mathematics grade-5 exam.

Once the predicted scores are calculated, they are subtracted from the observed scores to generate residuals, which reflect the unexplained growth in student scores. For the above student, this value is $\hat{e}_{ijt} = 0.226 - 0.189 = 0.037$. In other words, the student scored higher than predicted by the model and would figure positively into the LEA effect estimate.

3.2 Second-Stage Effect Model

Once the residuals from the first-stage regression ($\hat{e}_{ijt}$) are calculated and captured for each student, they are used as the dependent variable in a second-stage regression:

$$\hat{e}_{ijt} = \theta \cdot (Unit\ Indicator\ Variables) + u_{ijt} \quad (3)$$

The residuals, $\hat{e}_{ijt}$, are the part of outcome test scores not predicted from students' prior year scores and unit characteristics. The second-stage regression then captures how much of the variation in the residuals can be explained by the units under study, be it LEAs or schools. (For purposes of exposition, the assumption is that the units are schools throughout the rest of the model description). Thinking of the model in terms of the baseline prediction in stage 1, and noting

that the dependent variable in the second stage is the student-level deviation from the baseline prediction, the second-stage regression can be used to identify schools where the students systematically perform above or below their predicted values.[1] Equation (3) is estimated twice to produce two separate sets of school effect estimates – one calculated using all student residuals associated with each school ($\hat{\theta}^{s1}_{j,uncentered}$) and one calculated using only the student residuals from super-subgroup students ($\hat{\theta}^{s2}_{j,uncentered}$). In both cases, the standard errors for the second-stage regression are calculated to be robust in the presence of heteroskedasticity and are clustered at the student-level to account for the fact that a single student can appear up to three (3) times in the data, once for each of his/her exam score pairs included in the model. This effectively lowers the number of independent observations used in the estimation procedure.

Once the effects of all schools are estimated, they are centered appropriately. For MSIP 5, Standard 1, this is accomplished by calculating the average effect for all schools and then subtracting that average from each school effect. Specifically,

$$\hat{\theta}^{s1}_{j} = \hat{\theta}^{s1}_{j,uncentered} - \hat{\theta}^{s1}_{uncentered} \qquad (4)$$

where $\hat{\theta}^{s1}_{uncentered}$ is the average of the uncentered effects for all schools in the state. As a result of this centering, the mean value for $\hat{\theta}^{s1}_{j}$ will be zero. For MSIP 5, Standard 2, the comparison group is the average residual for all non-super-subgroup students in the state. Hence, the centered effect estimate in this case is given by:

$$\hat{\theta}^{s2}_{j} = \hat{\theta}^{s2}_{j,uncentered} - \bar{\hat{e}}_{non-ssg}.^{2} \qquad (5)$$

3.3 Shrinkage and Conversion to NCE Units

After the estimates are centered, shrinkage techniques are then applied to them to help account for the fact that individual school effects are measured with differing amounts of noise.[3] This variation in the reliability of estimates is the result of a variety of factors including sample size differences across schools and variability in exam score measurement error across students. The shrinkage estimate for each school is a weighted average of that school's centered effect estimate, $\hat{\theta}_j$, and the overall average school effect, $\bar{\hat{\theta}}$. Schools with noisy estimates have relatively more weight placed on

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[1] Also note that the second-stage regression is estimated without an intercept. This is beneficial, as it allows an effect and, more importantly, a corresponding standard error to be estimated for every school under consideration.

[2] In the calculation the centered effect estimates, it is assumed that the mean value for the reference group is equal to the true population value, so that the standard errors for the uncentered estimates are equal to the standard errors for the centered effect estimates.

[3] All of the procedures described in this section are performed separately on the estimates for MSIP 5 Standard 1 and MSIP 5 Standard 2. To simplify exposition, the superscripts on the effect estimates are suppressed and a single, general effect estimate ($\hat{\theta}$) is presented for illustration.

the overall average, while schools with less noisy estimates have relatively more weight placed on the effect estimate. The weight applied to the estimate for each school *j* is given by the following formula.[4]

$$r_j = \frac{\hat{\sigma}_\theta^2}{\hat{\sigma}_\theta^2 + \hat{\sigma}_j^2} \tag{6}$$

In (6), $\hat{\sigma}_\theta^2$ is an estimate the overall variance of the school effects (minus estimation error) and is calculated as the variance of the estimated school effects, $\hat{\sigma}_\theta^2$, minus the adjusted mean of the estimated variance of each individual school's effect estimate, $\hat{\sigma}_j^2$, where $\hat{\sigma}_j^2$ is the square of each effect estimate's standard error. [5]

The shrunken effect estimates and the corresponding upper and lower bounds of their 95% confidence intervals are converted to normal curve equivalent (NCE) units via the following formula

$$\hat{\theta}_{j,shrunken,NCE} = 50 + 21.06\,\hat{\theta}_j. \tag{7}$$

Additionally, the shrunken effects can be tested for statistical significance using the shrunken standard errors associated with the effect estimate for each school. [6] For both MSIP 5 Standard 1 and 2, the test statistic is calculated via the following formula:

$$t_j = \frac{\widehat{\theta}_{j,shrunken} - 0}{\hat{\sigma}_{j,shrunken}} = \frac{\widehat{\theta}_{j,shrunken}}{\hat{\sigma}_{j,shrunken}}. \tag{8}$$

In both cases, the null hypothesis compares the shrunken effect estimate to zero. However, it is important to remember that the comparison group (the zero) differs by standard. For Standard 1, this value is simply the average statewide school effect. For Standard 2, the centering is in comparison to the average residual for all non-super-subgroup students in the state.

Given the high number of student observations in each model (nearly one million in the Standard 1 specification) and the convergence property of the t-distribution, these test statistics are then

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[4] This school-specific weight, r_j, is known as the reliability ratio, and it is used to calculate the shrunken effect estimate in the following manner: $\hat{\theta}_{j,shrunken} = r_j\hat{\theta}_j + (1 - r_j)\bar{\hat{\theta}}$.

[5] Specifically, the adjusted mean is calculated as $\frac{1}{n-1}\sum_{j=1}^{n}\hat{\sigma}_j^2$. This procedure is based on Aaronson et al. (2007), who use the same calculation to estimate the estimation-error variance of teacher fixed effects in their study.

[6] The shrunken standard errors are simply the unshrunken standard errors multiplied by the reliability ratio, i.e. $\hat{\sigma}_{j,shrunken} = r_j\hat{\sigma}_j$.

compared to the standard normal distribution to determine statistical significance.[7] For Standard 1, significant positive effects indicate the school performed above the state average in a statistically distinguishable way, while significant negative effects indicate the school performed below the state average. School effects that are not statistically significant cannot be differentiated from the mean with available data. For Standard 2, significant positive effects indicate that the super-subgroup students in the school, on average, outperformed the non-super-subgroup students in the state in a statistically distinguishable way; conversely, significant negative effects indicate that the opposite is true. Insignificant effects indicate that the test score growth of super-subgroup students in the school cannot be statistically differentiated from the statewide test score growth of non-super-subgroup students.

[7] All statistical tests are conducted at the 0.05 significance level.

References

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McCaffrey, Daniel F., et al., *Evaluating Value-Added Models for Teacher Accountability*, RAND Corporation (MG-158), 2006.

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Parameter Estimates from First-Stage OLS

A1 LEA Mathematics Parameter Estimates

	Parameter Estimate	Standard Error	t-value	P-value
Intercept	0.01362	0.00179	7.62	<.0001
Lagged Math Exam Score (missing set to 0)	0.62485	0.00088458	706.38	<.0001
Lagged Year ELA Exam Score (missing set to 0)	0.21999	0.00087356	251.83	<.0001
Indicator for Missing Lagged ELA score	-0.07737	0.01435	-5.39	<.0001
(Missing Indicator)*(Lagged Math Exam Score)	0.04281	0.00959	4.46	<.0001
Mobility Indicator (in building less than 1 year)	-0.11412	0.00296	-38.57	<.0001
LEA Average Lagged Math Score	0.22167	0.00651	34.05	<.0001
LEA Average Lagged ELA Score	-0.06764	0.0074	-9.13	<.0001
LEA Percent with Missing Lagged ELA Score	0.00391	0.00159	2.47	0.0137
Percent Mobile in LEA (building less than year)	-0.00248	0.00020859	-11.89	<.0001
Grade 4 Indicator	0.00262	0.00184	1.42	0.1558
Grade 5 Indicator	0.00158	0.00184	0.86	0.3917
Grade 6 Indicator	0.0012	0.00184	0.65	0.5156
Grade 7 Indicator	0.0001768	0.00184	0.1	0.9236
Indicator for 2010 Exam Record	-0.0002598	0.00143	-0.18	0.8555
Indicator for 2011 Exam Record	-0.00101	0.00143	-0.71	0.4777

n = 949224; R-squared = 0.6785

A2 LEA English Language Arts Parameter Estimates

	Parameter Estimate	Standard Error	t-value	P-value
Intercept	0.01417	0.00182	7.81	<.0001
Lagged Year ELA Exam Score (missing set to 0)	0.60912	0.00088812	685.85	<.0001
Lagged Math Exam Score (missing set to 0)	0.23906	0.0008993	265.83	<.0001
Indicator for Missing Lagged Math score	-0.35683	0.01782	-20.02	<.0001
(Missing Indicator)*(Lagged ELA Exam Score)	0.01142	0.01225	0.93	0.351
Mobility Indicator (in building less than 1 year)	-0.08461	0.00301	-28.12	<.0001
LEA Average Lagged ELA Score	0.27741	0.0075	37	<.0001
LEA Average Lagged Math Score	-0.14185	0.00665	-21.34	<.0001
LEA Percent with Missing Lagged Math Score	-0.0078	0.002	-3.9	<.0001
Percent Mobile in LEA (building less than year)	-0.00226	0.00021131	-10.67	<.0001
Grade 4 Indicator	0.00143	0.00187	0.76	0.4448
Grade 5 Indicator	0.00074137	0.00187	0.4	0.6921
Grade 6 Indicator	0.00020676	0.00187	0.11	0.912
Grade 7 Indicator	-0.00024624	0.00187	-0.13	0.8954

Indicator for 2010 Exam Record	0.00023253	0.00145	0.16	0.8727
Indicator for 2011 Exam Record	-0.00058995	0.00145	-0.41	0.6842

n = 948499; R-squared = 0.6677

A3 School Mathematics Parameter Estimates

	Parameter Estimate	Standard Error	t-value	P-value
Intercept	0.01358	0.00167	8.15	<.0001
Lagged Math Exam Score (missing set to 0)	0.6225	0.000893	697.1	<.0001
Lagged Year ELA Exam Score (missing set to 0)	0.21849	0.000879	248.5	<.0001
Indicator for Missing Lagged ELA score	-0.05585	0.01465	-3.81	0.0001
(Missing Indicator)*(Lagged Math Exam Score)	0.03143	0.0096	3.28	0.0011
Mobility Indicator (in building less than 1 year)	-0.10448	0.00299	-34.99	<.0001
School Average Lagged Math Score	0.15424	0.0048	32.13	<.0001
School Average Lagged ELA Score	-0.00898	0.00538	-1.67	0.0949
School Percent with Missing Lagged ELA Score	-0.00421	0.000557	-7.55	<.0001
Percent Mobile in School (building less than year)	-0.00235	0.000157	-14.98	<.0001
Grade 4 Indicator	0.00354	0.00184	1.92	0.055
Grade 5 Indicator	0.00302	0.00184	1.64	0.1003
Grade 6 Indicator	0.00208	0.00184	1.13	0.2572
Grade 7 Indicator	0.0003843	0.00184	0.21	0.8347
Indicator for 2010 Exam Record	-7.165E-05	0.00143	-0.05	0.9599
Indicator for 2011 Exam Record	-0.0008295	0.00143	-0.58	0.5606

n = 949224; R-squared = 0.6787

A4 School English Language Arts Parameter Estimates

	Parameter Estimate	Standard Error	t-value	P-value
Intercept	0.01633	0.00169	9.65	<.0001
Lagged Year ELA Exam Score (missing set to 0)	0.60659	0.000894	678.58	<.0001
Lagged Math Exam Score (missing set to 0)	0.23946	0.000908	263.76	<.0001
Indicator for Missing Lagged Math score	-0.3392	0.01823	-18.6	<.0001
(Missing Indicator)*(Lagged ELA Exam Score)	0.01396	0.01228	1.14	0.2557
Mobility Indicator (in building less than 1 year)	-0.07339	0.00304	-24.16	<.0001
School Average Lagged ELA Score	0.22292	0.00548	40.71	<.0001
School Average Lagged Math Score	-0.11017	0.00489	-22.55	<.0001
School Percent with Missing Lagged Math Score	-0.00377	0.000748	-5.03	<.0001
Percent Mobile in School (building less than year)	-0.00306	0.000157	-19.55	<.0001
Grade 4 Indicator	0.00223	0.00187	1.19	0.2346

Grade 5 Indicator	0.0009924	0.00187	0.53	0.5959
Grade 6 Indicator	0.0003244	0.00187	0.17	0.8623
Grade 7 Indicator	-0.0005072	0.00187	-0.27	0.7866
Indicator for 2010 Exam Record	0.0001067	0.00145	0.07	0.9413
Indicator for 2011 Exam Record	-0.0007833	0.00145	-0.54	0.5889

n = 948498; R-squared = 0.6680

Glossary

Academic Achievement Targets

Academic achievement targets are based on the goal of improving total student proficiency levels on state assessments by 25 percent by 2020. Student Gap Group targets are based on the goal of cutting the achievement gap in half for students in historically under-performing subgroups (black, Hispanic, FRL, students with disabilities and English language learners).

Accountability Information

Beginning with the 2012-13 school year, accountability reports changed significantly as a result of Missouri's approval of the fifth version of the Missouri School Improvement Program (MSIP 5) and approval from the U.S. Department of Education for flexibility in implementing certain No Child Left Behind (NCLB) requirements. This allows for implementation of a single aligned system. The NCLB goal of 100 percent proficiency is replaced with ambitious yet attainable goals focusing on moving Missouri to meeting its goal of Top 10 by 2020. The NCLB accountability status labels of improvement, corrective action, and restructuring are eliminated; Adequate Yearly Progress (AYP) is replaced with building and district level Annual Performance Reports (APR) that incorporate student growth and other indicators, including science, social studies, a number of college and career readiness indicators, attendance rate, and graduation rate. The MSIP 5 APRs include a new "high needs" subgroup that represents an unduplicated count of all students in a school or district belonging to at least one (1) of the following individual subgroups: students with disabilities, English language learners (ELL), low income students, black students, and/or Hispanic students.

Adjusted Cohort Graduation Rates

All groups (districts, schools, and subgroups) are expected to make steady progress toward a goal of 92 percent for the five-year cohort graduation rate by 2020. For 2012 accountability determinations, the goal for the five-year rate is 82 percent.

Annual Benchmark Target (On Track)

The target for the group in the current year needed for the group to remain on track toward reaching the Top 10 by 2020 goal.

Annual MPI

All MAP assessment results from a single accountability year and for a single subject/content area are combined when generating the annual LEA, school, or student group MPI.

Full Academic Year

LEAs are required to test all enrolled students. All scores are reported but only scores of those students who have been enrolled a "Full Academic Year" in a building and/or LEA will be included in the calculation for the APR score. A full academic year is defined as any student who is enrolled from the last Wednesday in September through the MAP administration, without transferring out of the building or LEA for a significant period of time and re-enrolling. A significant period of time is considered "one day more than half of the eligible days between the last Wednesday in September and the test administration". This applies to each level independently. For example, a student who

is coded as "In building less than a year" but was in the LEA a full academic year is excluded from the building totals but is included in the LEA totals.

Level Not Determined (LND)

When an "Accountable Student" does not receive a valid test score, the student receives a "Level Not Determined" (LND) in place of an achievement level score. The percent for LND may not exceed 5 percent, as all LEAs and schools are required to assess at least 95 percent of their students on the assessments required by the MAP.

MAP Achievement Levels and MPI Point Values

Student performance on tests administered through the MAP is reported in terms of four (4) achievement levels; below basic, basic, proficient and advance. The levels of achievement describe a pathway to proficiency. Numeric values are assigned to each of the achievement level scores as follows when calculating the MPI:

Below Basic	1
Basic	3
Proficient	4
Advanced	5

The MAP Performance Index (MPI)

The *MPI* is used to develop scores within the Status and Progress metrics and to set academic achievement targets for LEA, school and student group achievement. Student performance on tests administered through the Missouri Assessment Program (MAP) is reported in terms of four (4) achievement levels (below basic, basic, proficient and advanced) that describe a pathway to proficiency. The MPI is a single composite number that represents the MAP assessment performance of every student by awarding points to each student based on the four (4) achievement levels. The points for all students in the LEA, school or student group in a subject area are summed together, divided by the number of students in the group being measured and then multiplied by 100. The result is the MPI for that group and subject.

MPI (Three-year)

The annual MPIs from the three (3) most recent years are averaged and the mean, the three-year MPI, is used to determine whether the LEA, school, or subgroup has reached the 2020 target, is on track to reaching the 2020 target, is approaching the annual benchmark or is substantially not meeting the achievement targets set for the MAP content area.

MPI (Cumulative)

LEAs, schools and subgroups must have an average of at least 30 Accountable students in the group being measured in a given content area over a three-year period in order to generate scores for accountability. If this is not possible, the status measure is calculated by "pooling" three (3) years of data and summing the number of Accountable students and the numbers of students in each achievement level across the three-year period; the "pooled" count is used in the calculation used for determining Status and is referred to as the Cumulative MPI.

N

N is the number of students whose results are included in the calculation for a given student group.

Participation Rate

All LEAs and schools are required to assess at least 95 percent of their students and subgroups on the assessments required by the Missouri Assessment Program. Regardless of performance, zero (0) APR points are awarded to a content area when the rate falls below 95 percent.

Progress

Differentiated improvement targets are set for LEAs, schools and subgroups based on the individual group's two (2) prior years of data. This method measures improvement by comparing two-year averages of data and setting targets through an MPI Gap or percent of required improvement. Year 1 and 2 are averaged, and years 2 and 3 are averaged; the averages are then compared to determine the amount of improvement. When three (3) years of data are not available, (e.g. a new school is established) the available years will be used for reporting purposes. Differentiated improvement targets are set for LEAs, schools and subgroups based on the individual group's two (2) prior years achievement.

Status

Status is a measurement of the school's or LEA's level of achievement based upon the specific calculation of a standard. Status is divided into four (4) levels; the 2020 target, on track, approaching and floor.

Student subgroups

School and district accountability *determinations* are made for the "all students" group and for the "super subgroup". Determinations are made for Local Education Agency (LEAs) and schools that serve 30 or more students and for super subgroups of 30 or more students in a single accountability year. Multiple years of data are used for buildings or LEAs with fewer than 30 students. School and LEA *reports* are produced for the "all students" group and for up to nine (9) additional subgroups: Asian/Pacific Islander, black, Hispanic, American Indian, white, multi-racial, students with disabilities, English language learners, and low income students.

Super subgroup

The new high needs group is an unduplicated count of all students in a school or LEA belonging to at least one (1) of the following individual subgroups: black, Hispanic, students with disabilities, English language learners, or low income students (eligible for free/reduced price school lunch (FRL)). The subgroups were selected based upon a review of the state's student achievement data.

Acronyms

ACT®	ACT®	A test used for college admissions, indicating a student's mastery of the core academic subjects. Scores range from 1 to 36.
AMOs	Annual Measurable Objectives	Meaningful goals that are used to guide and support improvement efforts of districts and schools.

AP	Advanced Placement	Classes available for which students may receive college credit upon passing the advanced placement exam.
APR	Annual Performance Report	A report that reflects MSIP 5 Performance Standards results for districts and buildings used for planning and state accountability determinations.
ASVAB	Armed Services Vocational Aptitude Battery	The ASVAB is a multiple-aptitude battery that measures developed abilities and helps predict future academic and occupational success in the military.
CCR	College and Career Readiness	A high school graduate with the necessary English and mathematics knowledge and skills—including, but not limited to, reading, writing, communications, teamwork, critical thinking and problem solving—either to qualify for and succeed in entry-level, credit-bearing college courses without the need for remedial coursework, or in postsecondary job training for their chosen career (i.e. technical/vocational program, community college, apprenticeship or significant on-the-job training).
COMPASS®	COMPASS®	A computer-adaptive college placement test that evaluates students' skill levels in reading writing skills, writing essay, math, and English as a second language.
CSIP	Comprehensive School Improvement Plan	A local board-approved plan that focuses on the improvement of the district's student achievement levels, programs, and services.
CTE	Career and Technical Education	Appropriate courses of career and technical programs of study designed to improve the academic and technical skills of students participating in CTE programs through integration and provide students with strong experience in, and understanding of, all aspects of an industry.
ELL	English language learners	The term English language learners refers to students who were not born in the US or whose native language is a language other than English.
ELP	English language proficiency	Annual assessment of English proficiency of all students with limited English proficiency.

EOC	End-of-course assessments	**End-of-course assessments** are criterion-referenced tests that are delivered to typically middle and high school students when the Course-Level Expectations for a particular course have been covered.
FAY	Full Academic Year	Applied to Standards 1 & 2- (From Understanding your AYP 11-12) Student who is enrolled from the last Wednesday in September through the MAP administration, without transferring out of the building or district/LEA for a significant period of time (one (1) day more than half of the eligible days between the last Wednesday in September and the test administration) and re-enrolling.
FRL	Free /Reduced priced lunch	Students may qualify for a free or reduced priced lunch if their household falls within the limits of the federal income chart.
GLA	Grade-Level Assessments	**Grade-Level Assessments** are augmented norm-referenced tests that are delivered annually each spring in communication arts and mathematics for grades 3-8, and science for grades 5 and 8.
IB	International Baccalaureate	International Baccalaureate is a rigorous academic program of studies designed to offer students a curriculum that will prepare them for universities around the world and is sponsored by the International Baccalaureate Organization (IBO) based in Geneva, Switzerland.
IEP	Individualized Education Program	A written statement that is developed, reviewed, and revised in accordance with IDEA for a particular child with a disability as defined by IDEA and addresses the child's unique needs as related to education.
IRC	Industry Recognized Credit	A portable, recognized credential (tangible evidence) that validates an individual has successfully demonstrated skill competencies in a core set of content and performance standards in a specific set of work-related tasks, single occupational area, or a cluster of related occupational areas.

LEA	Local Education Agency	The term for public elementary and secondary school districts and other elementary and secondary schools operated at public expense and under a publicly appointed or elected board.
LND	Level Not Determined	The percent of students for whom the district is accountable but do not receive a valid MAP score in a subject or content area.
MAP	Missouri Assessment Program	The statewide student assessment program developed in response to adoption of the Outstanding Schools Act in 1993 (Section 160.518 RSMo).
MAP - A	Map-Alternate	Missouri's Alternate Assessments for students with the most severe cognitive disabilities.
MLS	Missouri Learning Standards	The state agency term for all academic areas within the Show-Me Standards including the Common Core Standards.
MPI	MAP Performance Index	The MPI is a single composite number that represents the MAP assessment performance of every student by awarding points to each student based on the four achievement levels. The MPI is a calculation used to determine whether the LEA, school, or subgroup is meeting the 2020 target, is on track to meeting the 2020 target, is approaching the annual benchmark, or is substantially not meeting the state performance targets.
MSIP 5	The fifth version of the Missouri School Improvement Program	A system of accountability used by the State of Missouri that holds districts accountable for student achievement.
NAEP	National Assessment of Educational Progress	A nationally representative and continuous assessment of what America's students know and can do in various subject areas. It is commonly known as the nation's report card.
PLTW	Project Lead the Way	A high school program that provides students with real-world learning and hands-on experience. The program is for students interested in engineering, biomechanics, aeronautics, biomedical sciences and other applied math and science arenas.
PPOS	Personal Plan of Study	A student's scope and sequence of coursework and co-curricular experiences based on chosen educational and career goals; relies on the school's implementation of a Program of

		Study.
SAT®	SAT® (use to be Scholastic Assessment Test but now it is an empty acronym)	A standardized test designed to assess academic readiness for college, measuring the skills required for success in the 21st century.
SEA	State Education Agency	The term for the state agency with primary responsibility for elementary and secondary education in a state (in Missouri, the Department of Elementary and Secondary Education).
TSA	Technical Skill Attainment	A technical skill assessment measures skill proficiency of Career and Technical Education (CTE) students who are concentrators (a student who has earned three or more sequential credits in any state-approved CTE program grades 9-12) and has completed an approved CTE program. (It is not intended to be taken after every course).

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